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EDUCATION IN ROENTGENOLOGY *

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Advancement in roentgenology as a branch of medical science devoted to the diagnosis and treatment of disease depends, first of all, on the fitness of the roentgenologist adequately to handle the problems presented to him, and, secondly, on the appreciation of the services which roentgenology can offer to the general medical profession and also to the laity. Its progress therefore depends on the training of the roentgenologist and the education of the medical profession. The foundation for this must of necessity be laid during the formative period of the medical student. It is a problem that primarily concerns the medical college during the period when the student is beginning his study of medicine, but it is also intimately concerned with the premedical courses. Professional societies, both local and national, fulfil a very useful place in their presentation of many of the newer developments in this science, but they cannot replace the fundamental work that should be done in the medical colleges.

Let us consider whether the medical colleges of this country are adequately performing the task that falls on them. During the last few months, I have taken occasion to review the catalogues of all the medical colleges in this country, with especial reference to their courses in roentgenology. The information gained as to the courses given was so confusing that an attempt at classification would be impossible. The courses were as varied as the binding and pages of the catalogues. To say that lack of uniformity prevailed in the manner in which roentgenology is taught in this country would be putting it very mildly. In only a small percentage of the schools was there a separate department of roentgenology with a professorial head. To prove these statements, I will quote from some of the various catalogues.

In one prominent Southern university, the teaching is done by the assistant professor of medicine; and there is no mention of the amount of time devoted by the department of medicine to roentgenology. In another prominent university, we find that the professor of roentgenology is also the professor of dermatology and clinical therapeutics. The catalogue does not give the number of hours set aside for instruction, and the course in roentgenology is scheduled under the head of "Lectures and Demonstration in Electro-Therapeutics, Including X-Ray." In a well known Eastern university the department of roentgenology is represented by an instructor in radiography and genito-urinary diseases; the catalogue does not even give the year in which the subject is presented. In a well known university of the Southeast we find that the instructor in medicine gives the course in roentgenology; the number of hours required is not given. In one prominent university of the Middle West, the college catalogue gives no department of roentgenology, nor any mention of work in this subject. In another college of the Middle West, roentgenology is represented by an instructor in surgery. In a Southern college, a professor of physiotherapy and roentgen ray is mentioned, who gives a course in hydrotherapy, baths, light, heat, massage and electricity, including the roentgen ray. In a prominent college in New York State, no staff is listed under the head of roentgenology, but a course is given by the department of surgery, though the hours are not listed. In one Eastern University hospital there is a roentgenologist of international reputation, but the college catalogue only lists a roentgenology conference once a week for ten weeks, and this is an addendum to the surgical staff. In another university, we find under the head of therapeutics that there is one lecture given on the roentgen ray, one on radium, one on ultra-violet light, and one on electrotherapeutics. I might mention that several of the prominent colleges conceal roentgenology under the wing of the department of orthopedic surgery. In another university of wide reputation, the department of roentgenology is represented by an associate professor, although this associate professor enjoys as high a professional reputation and has had as long experience in teaching as many of his colleagues who hold the rank of professor.

I have given enough quotations to call attention to the fact that a most unfortunate situation exists at present in the teaching of roentgenology in this country. This is probably due to the fact that roentgenology is a new specialty and that medical college faculties are notoriously slow in meeting the requirements of changed conditions. I have been indulging in some destructive criticism; let us consider for a few moments the required course that should be given.

Years ago, when the use of the roentgen ray was confined to the demonstration of bullets and fractures, it was quite proper to class roentgenology as a subdepartment of surgery. However, the gradual growth of the applications of the roentgen ray to practically every department of medicine and surgery has produced a change which makes it advisable that roentgenology should be recognized as a separate department in every medical school. It is self-evident that the demonstration of the services of roentgenology to internal medicine, otology, neurology, obstetrics, etc., could not be adequately presented by any one whose work was confined to surgery. It seems almost self-evident that every

* Chairman's address, read before the meeting on Radiology in the Section on Miscellaneous Topics at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

medical college that is keeping abreast of the times in matters of medical education should have a separate department for roentgenology and roentgen-ray therapy. It follows, too, that in such a separate department the teaching should be under the direct control of a roentgenologist, who should be given the title which his experience and fitness would warrant. If his experience in his particular line of work measures up correspondingly with the experience of the head of the surgical department, who is given professorial rank, it follows that the roentgenologist should be given professorial rank. In accord with the newer ideas of clinic presentation, the roentgenologist should be afforded his proper place in clinical conferences along with the surgeon, the internist and the other specialists. Few sights are more pitiful than that of some internist uninformed on the basic principles of roentgenology attempting to demonstrate roentgen-ray findings in a gastro-intestinal case.

Following the proper organization of a department of roentgenology, this subject must receive its appropriate presentation to the medical student. It is not the claim of those most interested in roentgenology that an undue proportion of hours should be assigned to this more special field of knowledge. However, since the student is constantly confronted with films made in all the important clinical fields of medicine, it follows that the course should be comprehensive. The fundamental principles of the science should be thoroughly taught, but the technic of the application is more properly left for postgraduate courses. The general principles of plate interpretation should be thoroughly taught, so that students will think in records of density and tissue composition rather than in the blacks and whites of pictures.

I would emphasize that the teaching of roentgenology is primarily a medical and surgical subject and that all teaching positions in the department of roentgenology should be held only by those who possess a medical diploma. This statement seems so self-evident that I would hesitate to emphasize it were it not that college authorities are at times oblivious of this fact.

The ideal presentation of the subject of roentgenology would be to familiarize the student in the preclinical courses with the use of the roentgen ray in the study of normal anatomy, normal physiology and gross pathology. The student should approach his clinical work with a fair understanding of the normal roentgen-ray appearance of the body structures, and the body functions. It therefore follows that the time-honored lecture course given during the senior year, based principally on the lecturer's collection of more or less interesting lantern slides, is quite passé. The aid which the roentgen ray can afford in the study and diagnosis of the clinical cases assigned to the student during his senior year should be thoroughly taught in sections limited in number so that each student can see satisfactorily the films demonstrated. On the other hand, the roentgenologist entrusted with this teaching should be most precise in the recognition of the limitations of roentgenology, so that the student on his graduation will have sane ideas on the use and limitations of the roentgen ray.

Now that many states are requiring a full year's residence as a rotating intern in a recognized hospital before a state license will be granted, it follows that the rotation service in a Class A hospital should have the intern spend a proper amount of time in the roentgen-ray department. Here his work should be laid out carefully for him by the chief, as his comparatively short stay in the department requires that his training be somewhat of the intensive type. Here he will learn to correlate the clinical side with the roentgen-ray findings.

It is well recognized that the progress of roentgenology has been hindered by the work of comparatively untrained men who have taken up this specialty. One remedy for this is not the establishment of more roentgen-ray postgraduate schools, but the appointment in Class A hospitals of a resident roentgenologist. This resident roentgenologist will be on duty in the hospital, and, acting under the direction of the nonresident chief, will daily perform the technical work and the diagnostic interpretation which will ultimately classify him as a trained specialist.

SUMMARY

1. Roentgenology as a modern specialty is inadequately taught in a large percentage of the medical colleges in the United States.

2. Roentgenology should be recognized as a separate department in all standard medical schools and should have a director of professorial rank.

3. The teaching of roentgenology in our medical colleges should be carefully correlated with the other branches, so that the students would receive proportionate and adequate instruction in this specialty.

4. The Class A hospital should assist in the teaching of roentgenology by affording its interns the opportunity to become acquainted with the every day applications of its principles.

5. The training of the specialist in roentgenology should be one of the functions of a Class A hospital.

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TEACHING OF UROLOGY TO INTERNS*

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Methods of instruction of the recent graduate in the art of surgery and of the surgical specialties are important, for the problems concerning them affect us all to a greater or less degree.

As any special field develops through intensive study and work at the hands of many men, the amount of detailed knowledge in that field is continually increased till a point is reached at which the available knowledge, especially as it concerns diagnostic and therapeutic measures, is of a magnitude so great as to demand a period of months, if not years, of extensive study by him who would become master of it. In such a state is the field of urology today.

It is manifestly impossible to acquire proficiency in this branch of surgery during those relatively few months comprised in the usual hospital internship. It is very important, however, that a well balanced surgical instruction should familiarize the intern with the outstanding features of our present knowledge concerning diseases of the urinary apparatus, so that on graduation he may see all types of disease in proper perspective. Should he then wish to devote his time intensively to this type of surgery, he will renew his hospital appointment as assistant resident, and later progress to the post of full resident.

* Read before the Section on Urology at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

Our special problem of instruction is thus reduced to the question, How much is it necessary for the man well trained in general surgery to know concerning the surgery of the urinary organs? And as a subsidiary question, How shall he acquire at least the beginnings of this knowledge during his internship?

As concerns the method by which detailed information may be imparted to the intern, a considerable variation must obtain because of the varying organization of our hospitals. In some, the intern is committed to a rotating service, spending a specified amount of time in each special field of surgery. In others, his progress is marked only by successive increase in the degree of responsibility laid on his shoulders, the types of patients under his charge remaining always diverse.

Since my own work at the Brigham Hospital is organized on the latter plan, it is of this arrangement only that I will speak. No differentiation is made of the hospital beds except that they are about equally divided between medical and surgical patients. The population of a ward will therefore at any time be fairly representative of the more serious forms of disease as seen outside the hospital. The intern's service is divided into four periods of four months each: The first term is devoted to clinical laboratory work and the operating room as second assistant; the second term gives him charge of a small surgical ward under the supervision of an assistant resident; the third finds him giving his whole time to the patients in the outdoor department, which in our hospital is open all day, while during his senior term he controls a larger and more active surgical ward. Here we see no provision for intensive work by the intern in urinary diseases over a specified time. He is, however, having to deal with at least a few patients of this type during his entire hospital career.

In the first term he is responsible for such clinical examinations as urinalyses, renal function tests, and the collection of material for the various bacteriologic and serologic examinations. In the second term the intern becomes assistant in the cystoscopic room during half his time, under the immediate direction of the resident in urology. In half of his third term he assumes charge of the urologic department in the ambulatory clinic, in which venerology and urology are about equally divided, and in which, under guidance, simple cystoscopies are done; while in the final period he returns to the indoor care of such urologic patients as may, among others, be assigned to his ward.

Once each week, formal ward rounds are held by the head of the service, at which each intern is expected to be on hand for the discussion of all cases under his charge. In this exercise, fourth year medical students, acting as clinical clerks, take a prominent part, and the patient is discussed from all angles, together with data from pyelograms, etc.

So much for the opportunities for instruction of the intern in which precept and example, instruction by both resident and attending surgeon, and all those elements which go to make up the complexion, or, better, the personality of the hospital, play their part. You will ask what specific points are to be emphasized during such instruction. The scope of this paper will permit the consideration of only a few of them, such as the fact that a careful detailed history and physical examination of the whole patient is the first necessity for a proper diagnosis. This includes a rectal examination in men; a rectal and pelvic examination in women. Then there follows urinalysis and blood count. Renal function as shown by the phenolsulphonephthalein test comes next, the intern's attention having been called to the possible sources of error. Then a roentgen-ray film of the kidneys, ureters and bladder is required in all cases except those presenting obvious pathologic conditions confined to the external genitalia. Similar procedure in various cases will thus demonstrate to the intern that many routine measures should precede that of cystoscopy, which should be performed only at an advanced stage in our investigation of the patient, and after its need has been demonstrated. Constant stress and instruction are given in the precautions necessary for instrumentation of the male urethra, and until dexterity has been acquired, the intern should be forbidden the use of any instrument more formidable than the soft rubber catheter, except under the personal guidance of a senior man.

Such fundamental diagnostic measures the intern will learn during the early part of his hospital career. In the venereal clinic the proper conduct of acute and chronic gonorrhea is stressed. Here also he will have further opportunity, under guidance, to acquire a beginning familiarity with the observation cystoscope. In the ward he will learn the constant watchful care needed by the man bearing an indwelling catheter, the great value of forcing fluid and the favorable influence of both on the condition of the prostatic patient with overburdened kidneys. The great importance of pyuria, and especially of hematuria, as symptoms, will become evident in many cases. The "silence" of renal tuberculosis, and the significance of a urine, acid and possibly containing some pus, but sterile on the usual culture mediums, become clear. Familiarity with different pyelographic and cystographic roentgen-ray films will also be acquired, and the need for urologic investigation of all patients presenting obscure abdominal symptoms of any sort will stand forth.

It will be noted that I have not mentioned any special training of our intern in operative work; this is for the reason that he will have no opportunity for such, except in case of relatively minor procedures on the male external genitalia or some such routine measure as a simple suprapubic cystotomy. For these his general operative instruction will suffice. Should he aspire to major urologic surgery he must serve a much longer apprenticeship.

In effect, therefore, we try to give our intern a point of view. We try to show him how diagnostic evidence is obtained, and what deductions are proper from each form of evidence. The life history of diseases of the urinary organs he will learn at first hand; what should be done for such patients, and under proper treatment, what will be the prognosis, will become clear. He will in no sense of the term be on graduation a urologist; but, granted a beneficent providence has endowed him with an average brain, he will at least be such as the wise Thomas Fuller in the seventeenth century described as one who "trusteth not the single witness of the water if better testimony can be had, for reasons drawn from the urine alone are often as brittle as the urinal."

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ABSTRACT OF DISCUSSION

DR. ROBERT H. HERBST, Chicago: In discussing Dr. Quinby's paper on the instruction of interns in urology, we must differentiate between the intern or fifth year student, and the resident or postgraduate student. The object of the latter is to concentrate in urology with a view to fit himself to practice this branch of surgery in a more or less special

manner. I believe that Dr. Quinby's paper has to do with the teaching of the intern only. How much we can teach these students depends on the type of service they are following, whether single or rotation. If the former and the entire year is devoted to urology, I think he can learn a great deal. If, however, he is taking a rotation service and makes a change in service every four or six weeks, one cannot hope to teach him more than the simple principles, such as catheterization. The one year plan with single service is better from the standpoint of the patient and the attending man, but gives the student practical experience in only one phase of medicine. The same plan with rotation service gives him only a "look in" on each subject, and he is of little value to the attending man and often useless in the care of the patient. The ideal plan is a two year service—the first year being devoted to medicine in which the student may rotate in the sub-branches of general medicine, gastro-enterology, neurology, etc., and a second year devoted to surgery in which he rotates in general surgery and the surgical specialties, such as urology and orthopedics. With this plan the student can remain in a service for at least three months, learn something worth while in each, and at the same time be of some value to the attending man and the patient. It seems to me that if we could take out a year in the grade school or high school, and add a year of hospital work, making the internship two years, we could succeed in giving these students something of practical value. At Rush Medical College and the Presbyterian Hospital we plan to equip the student for his intern year by allowing him to serve in the hospital as a clinical clerk during his fourth year. By so doing, he obtains experience at the bedside, in history writing and in the examination of patients, and has an opportunity of seeing the therapy carried out, whether it be medical or surgical. In this way the student enters his intern service with some practical knowledge and is better prepared to carry on the work of the fifth year.

DR. A. L. CHUTE, Boston: It seems to me very difficult, particularly in the smaller hospitals, in which we have men for only a few months at a time, to get the interns to have any great enthusiasm or to take any deep interest in urinary work or do much for the patients; it is really too advanced work for most interns. I have no specific plan in mind by which we can obviate this. Dr. Quinby properly considered the subject largely from the point of view of the student, while I will admit that I am interested not only in what we give the intern, but what in turn he is going to give us. At present I get very little help, for the men change often, and by the time they get useful they rotate to another service.

DR. B. A. THOMAS, Philadelphia: The difference between the man taking general hospital service and the man who wants to be a urologist is great. The chief difficulty is to arouse any interest in the general hospital intern and get him to take any interest at all in this specialty of the "peacocks" referred to by Dr. Haggard. It seems to me that a great deal will be accomplished when the millennium arrives and the urologist can have an organization of his own in hospital services for the care of patients, where not only the nurses and orderlies, but the interns will have nothing else to do to distract their attention. They certainly will get a much better training, and, I think, many will be stimulated to take up urology as a specialty who now fall by the wayside. So far as the chiefs of service are concerned, they would get much better and more satisfactory work from such residents in the service. This would be a real step forward for urology generally. This plan is in force in some hospitals already, but in the vast majority there is not a separate ward devoted to these patients, and that is one of the real problems and difficulties encountered.

DR. I. L. OHLMAN, Pittsburgh: In Pennsylvania, the bureau of medical education and licensure takes the stand that in all free and part pay cases it is the province and right of the intern to be first assistant at the operating table. The bureau insists on this and, since we are dependent on the intern, this practice is forced on us in all hospitals, except those which can afford to pay licensed physicians. I might explain that the medical student takes his fifth year of medical education in such hospitals as are approved by the bureau of medical education and licensure. It is only after the completion of his fifth year in an approved hospital that he is permitted to take the examination for license to practice in our state.

DR. W. C. QUINBY, Boston: It is our duty to influence wherever we can such drastic legislation as will dictate what the exact method may be by which an applicant for licensure may acquire his knowledge. An examining board has the right only, in my humble opinion, to ask of the candidate, "Do you know enough of medicine and surgery to be a safe practitioner?" It exceeds its rights if it attempts to dictate how such knowledge shall be obtained. As to those states that require a rotating service in hospital, I am sure that this is a mistake, and can be easily circumvented by men taking the federal examination. Dr. Chute asks what we are going to get out of the intern. I am more disposed to ask, "What are we going to get into him?" I never try to get anything out of him. If I can keep him from getting me into trouble, I feel that I am fortunate. In our hospital the intern is but one step in advance of the clinical clerk. They are there distinctly as students, to be instructed, and I never expect to get anything out of them. The intelligent aid comes from the resident staff, not the intern staff. I have not had much experience with urologic patients in a separate ward. Dr. Thomas differs from me; but my impression is that, so far as the student of general surgery is concerned, the separate ward is a mistake. It is apt to give him a warped point of view. I grant you will get more out of the intern, but the intern himself will not learn as much as he will out of being in charge of a ward where in one bed the patient has a hernia, in another a fibroid of the uterus, in another a tumor of the brain or in another a kidney neoplasm. He will see this variety in those seeking his aid after he leaves the hospital so that he had better see it in the hospital. I am much surprised by Dr. Ohlman's statement concerning the first assistantship at operation. I should greatly dislike being restricted in such way in the handling of the men under my tutelage in the hospital. I would suggest that the attitude in Pennsylvania might change, if a resident staff were added to the intern staff.

INDUSTRIAL HEALTH UNDER NON-MEDICAL SUPERVISION *

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The time at my disposal forces me to be somewhat brief and dogmatic. Dr. William H. Park [1] commented last year before the Conference of Physicians in Industry on the changing types of diseases from the strictly communicable diseases, pronounced in childhood and young adult life, to the diseases of industry and civilization. My discussion is limited to the industrial aspects, and then in only a small way.

THE STATUS QUO

I think we can all agree pretty well with Selby [2] that the recent war made industrial hygiene prominent in this country, and that now *the physician in well organized plants* has come into his own and is governing his bailiwick himself instead of his employer, or the feeble attempts of official departments of government. But with this exception, in practically all states, medical inspection of the hygiene of working conditions is rare

* Read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

1. Park, W. H.: The American Public Health Association and Industrial Medicine, Nat'l Ind. Conf. Bd., Spec. Rep. **30**: 8 (April 4) 1924.

2. Selby, C. D.: The Promotion of Industrial Health, Am. J. Pub. Health **15**: 209 (March) 1925.

indeed, so that industrial hygiene is today hardly more than a legal function of state labor departments with limited personnel devoting practically all its time to accident prevention and having no training in hygiene and the fundamentals of health conservation.[3] As a consequence, circumspection shows that traditions rule. Health practically takes care of itself. Disastrous forms of ventilation, overheating and illumination prevail. Poisons are tolerated to the point at which workers sicken at their benches except that, in some states, compensation tends to check them. Ignorance abounds, as shown by the methods employees and employers use to circumvent certain hazards. Exploitation abounds through the activity of commercial agencies as, for example, in regard to first-aid remedies and methods, disinfectants and air filters, whirlwind ventilation schemes (in place of local exhausts) which secondarily compel dangerous overheating, and, here and there, lay persons, cultists and sometimes nurses acting as physicians.

With all due respect to what a few industrial physicians are doing and have accomplished, all full credit to them, rarely do physical examinations exist or are inquiries made into the causes of sickness. Hoover's waste campaign in industry goes unappreciated, as respects a large part of the industrial health question, in the vast majority of plants. Only a few states require compensation for occupational diseases, and here the limitations are so severe that it is very inadequate. As pointed out by many, the lack of efficiency while at work in those in poor physical condition is probably a greater factor than actual loss of time. The current Philadelphia industrial health survey[4] shows, without question, that high grade physical defects are much more frequent in factory than in office or field workers.

Tuberculosis rates transcend, in connection with occupation, practically any other relationships known in civilized communities for this disease.

As a community, state and national affair let me cite Dublin's[5] statistical deduction that there is a marked diminution in the longevity of industrial workers in the country—a difference of about eight years in the average expectation of life when compared to those engaged in agricultural, commercial and professional pursuits. Of this, one year on the average is due to the extra hazard from accident, and two years to the increased incidence of tuberculosis; pneumonia is twice as high; and degenerative diseases, such as cerebral hemorrhage, chronic interstitial nephritis and organic heart disease, show rates two or three times as high as in the nonindustrial groups. Dublin quotes Wade Wright to the effect that 5,000 out of a total of 32,000 patients in the Massachusetts General Hospital were referred to the industrial clinic, and approximately 2,000 of them were ultimately found to be suffering from occupational disorders of one kind or another. About 6 per cent. of those who came to the outpatient service appeared to be in need of specialized treatment or the advice of an industrial physician. In a physical examination survey, chiefly among wage-earners' families, the New York Academy of Medicine[6] found that 72.7 per cent. of 958 examined needed definite medical treatment. Says Dublin, "If cases [of occupational disease] are discovered it is only because the worker happens to fall into the hands of an unusually enlightened physician, or because his condition is extreme."

It is plain to be seen that there is practically no public, that is, official supervision over the health of workers in the smaller plants of the country (employing less than 500 persons), which constitute, according to McCord,[7] 99 per cent. of all plants and employ 60.4 per cent. of the 9 million factory workers in the country. McCord concludes that less than 1 per cent. of the sizable smaller plants maintain adequate medical departments. The Philadelphia survey[8] discovered approximately 6,500 industrial and commercial firms in that city, of which more than 4,500 employ only from two to twenty-five persons. "These were excluded from further study as not being likely to have any organized medical service on account of their small size. . . . Of [1,691] small plants in Philadelphia having from 25 to 300 employees [representing approximately one fourth of the industrial population], 680 reports show 334, or 49 per cent., of the plants reporting have medical service. This is complete in four plants, incomplete in thirty and of emergency character in 300. More than half, 346, report no medical service of any character."[9] A direct inquiry[4] showed that of 507 health examinations in ten selected plants employing from twenty-five to 200 persons where no medical service obtained—permanent workers, for the most part—92 per cent. had not visited a physician within a year. Seven per cent. said they had never consulted one. Several published reports elsewhere have also shown that cultists are usually first consulted for minor and even major afflictions among the working groups.

From the data presented above it will be seen that the government is derelict in duty in regard to the health conservation of workers. It leaves large plants to take care of themselves and pays no attention to small ones. No machinery exists to extend the experience developed in larger plants, many of which have reduced the customary average of from eight to ten days' loss of time annually per person on account of disability to perhaps half that figure.[10]

In summing up the status quo, it appears to me that while the mill keeps on grinding, voluntary agencies keep extending their appeals with too much emphasis on aid instead of prevention. Likewise, the government, from the smallest incorporated place up to that of state and national magnitude, is always much more willing to spend public funds on compensation and accommodation than to appropriate for prevention. I am glad to say that, at last, the electorate in Ohio has definitely voiced its opinion on this matter and permitted the state department of industrial relations to set aside 1 per cent. of the premiums collected for compensation purposes for the prevention of accidents and occupational diseases. Heretofore, as exists in almost all states, a meager direct appropriation has been made for factory and mine inspection purposes, usually without any relationship to the magnitude of the disability problem.

3. Hayhurst, E. R.: Values in the Maintenance of Health of the Worker, Am. J. Pub. Health **15**: 116 (Feb.) 1925; The Rôle of the State in Industrial Hygiene, Am. J. Pub. Health, to be published.
4. Philadelphia Health Council and Tuberculosis Committee: Five Hundred Health Examinations of Industrial Workers, Memorandum [sic] **2**: 1 (Aug.) 1924.
5. Dublin, L. I.: Health of the Workers, Monthly Labor Rev. **20**: 8 (Jan.) 1925.
6. Emerson, Haven: Periodic Health Examinations of Apparently Healthy Persons, J. A. M. A. **80**: 1376 (May 12) 1923.
7. McCord, C. P.: Industrial Health Promotion in Small Plants, Am. J. Pub. Health **15**: 299 (April) 1925.
8. Philadelphia Health Council and Tuberculosis Committee: Medical Service in Industrial Plants in Philadelphia, Memorandum [sic] **3**: 12 (Feb.) 1925.
9. The bracketed inclusions are taken from other parts of the same report.
10. Quinby, R. S.: A Study of Industrial Absenteeism, Monthly Labor Rev. **13**: 1 (Oct.) 1921; Nation's Health **3**: 572 (Oct.) 1921.

I trust I have not overstated the situation. I firmly believe that anybody who will investigate, by plant surveys or statistical study, will come to somewhat the same conclusions.

IDEAS ON CORRECTION

We all have our ideas in regard to correction and what things might be. I am thoroughly in accord with certain British and American authorities that modern medicine has much to offer industry—so much that if estimated in dollars it would mean hundreds of millions annually for England and probably billions for the United States. It is first necessary that medical men recognize that there is an industrial health problem, that the economics of scientific medicine should be appreciated by industry itself, and none the less by the government. In fact, a survey today would show that the industrial health problem is very little appreciated even by public health workers and sanitarians in general. It is truly surprising that so-called efficiency experts have missed this situation so completely in detailing their recommendations for increasing industrial production. Modern public health can save lives in factories and work places fully as well as in schools, water supplies, food inspections and housing questions. Let us balance the program.

I know of only one method of procedure under these circumstances. It is necessary to demonstrate and cease preaching. People are quicker to appreciate results than theories, and to follow suit where the trail is blazed.

THE DORMANT POWERS THAT BE

Suppose that local medical societies should organize committees on industrial health and build up perhaps a section to include industrial physicians in the community as a first step. Suppose that the local health department could be influenced to appoint a physician to cover industrial health in the health program of the town or city. Suppose, as is now being done by the Philadelphia group mentioned above, that the tuberculosis agencies of voluntary character throughout the country could be directly interested and so assist local health departments in this matter. Add to these the influence that can be obtained from certain industrial managers, labor leaders, and the health committees of chambers of commerce. With these groups, and perhaps others, I believe it is possible to get facts quickly and make constructive demonstrations that will be of arousing interest to local communities. The local health department may easily affiliate its efforts with local scientific associations, such as the engineering and chemical professions. Perhaps also with local educational institutions. I am glad to say that within the last eight months organized labor has begun to show live interest in its health problems [11] and could undoubtedly be grafted into the program.

I believe that local health departments can proceed with this program with only a good, broad-visioned medical man to head it and with no laws, ordinances or fixed regulations. Practically everything can be cared for by conferences and advice following certain leads, such as the investigations of local complaints made by workers; requests of employers; study of death certificates and morbidity reports; investigation of places where tuberculous persons are working, and of occupational disease compensation cases; close cooperation with local factory inspectors and women visitors; looking into trades and callings with traditionally bad health records; district nursing reports; local dispensary cases, and hospitals.

11. Workers' Health Bureau (799 Broadway, New York), Bull. 7, January, 1925.

THE IDEAL TRIUMVIRATE

Everything, in my opinion, should look toward joint industrial health control by the employer, the employees, and the public's representative, i. e., the local health department,[12] with the latter as the neutral agent concerned and, when competent, the activator if not the leader for the community. The educational value of such coordinations and contacts should be immense on the workers concerned. Local small plants may be joined up, as McCord,[7] Emmons [13] and others [14] have done, for a system of organized medical, dental and nursing service in which medicine and health are not played up secondary to surgery, and in which the best ideas may be borrowed from (neighboring, if possible) large plants that have complete health services.

There should be no conflicts whatever with the constituted authority of the state labor department and its deputies or factory inspectors. Our general experience in Ohio is that they welcome with open arms every assistance which health departments can render them. They are likewise exceedingly useful adjuvants because they have, as a rule, executive enforcement in their hands, so that, in the occasional cases in which such methods of betterment are necessary, their statutory powers may be resorted to. The secretary of the Ohio Manufacturers' Association holds that the state should enforce the maintenance of healthful conditions generally but stop short of the individual physical control of its citizenship, which is truly a private and unofficial matter, yet needs dovetailing into the rest.

"SIXES AND SEVENS"

As to the content of the local industrial health program following on the intimations and methods of inquiry suggested above, I have little to say. Solutions will easily suggest themselves, without doubt, and are necessarily more or less peculiar to given circumstances. The promotion of physical examinations should be among the earliest provisions. Funkhouser [14] points out how the specific findings may be kept confidential with the examinee, and yet be of guiding value to the employer and the local program. Diehl,[15] in charge of the student health service at the University of Minnesota, points out something which is fully applicable to industrial workers, that 95 per cent. of the 26,960 (voluntary) calls at the student dispensary last year were such as would never have sought medical aid except for the presence of such an opportunity. This first call affords oportunity for the first physical examination, and, immediately therewith, education in personal health begins.

I have had three experiences in connection with occupational disease dispensaries, each in a different city and state, all sad ones, because I consider that all were failures. None now exist. I note that others have had similar experiences. Apparently what is wanted is

12. Hayhurst, E. R.: Ideals in the Organization of an Industrial Medical Service, Am. J. Pub. Health **10**: 715 (Sept.) 1920.
13. Emmons, A. B., 2d: Mercantile Health Work, Health News (New York State Dept. Health) **18**: 249 (Oct.) 1923.
14. Funkhouser, E. K.: Philadelphia Establishes Medical Service in Industry, Nation's Health **6**: 753 (Nov.) 1924. National Safety News: Health Service for Small Plants, Safe Practices Pamphlet 57, **8**: 43 (Nov.) 1923. National Industrial Conference Board: Research Reports 34, 37, 50 and Spec. Rep. 22. Clark, W. L., Jr.: Health Service in Industry, New York, the Macmillan Company, 1922.
15. Diehl, H. S.: The Relationship of the Student Health Service of the University to the Physicians of the State, Journal Lancet, Sept. 1, 1924.

dispensaries located directly in connection with each work place, if not in some room of the plant itself, where all afflictions may be given first aid attention and the patients, solid advice, and where health examinations may be made on the company's time. Without doubt medical college and general hospital dispensaries are failures in this field except that perhaps, as pointed out by Wade Wright,[16] some method of selection and going after cases by social workers is arranged, and, even here, I doubt its efficacy for interesting workers in health examinations.

A community program of industrial health service should, I think, keep in mind the extension to work places of from eight to ten rules governing healthful environment, and from twelve to fifteen rules governing personal health. The office must keep in close contact with the local medical society and other professional societies, and also with plants that have comprehensive health services already established; while the director himself must show enough interest in the whole problem to sense research possibilities and to affiliate himself with industrial medical and hygiene associations, subscribe to and read their publications and, above all, maintain a smiling countenance and a grim determination to make the thing work.

CONCLUSION

For the public weal, industrial health simply requires sanitarians to take charge, both official and nonofficial, medical and nonmedical, with local health departments supervising, and guided considerably by the experience of those industrial physicians and surgeons whose duties actually extend to hygiene and sanitation of working conditions in their respective plants.

ABSTRACT OF DISCUSSION

DR. FRANK L. RECTOR, New York: Dr. Hayhurst's report on the Ohio company that reported only thirteen hours loss per employee yearly from sickness should be taken with a grain of salt. I am reliably informed that in this company as soon as a person is sick he is dropped from the payroll, and when he returns, he is taken on as a new employee. That is an easy way to obtain a good record. He spoke of industry taking eight years out of a man's life. This is a severe indictment; and while I would not question the authority for the statistics from which the interpretation was made, I would call attention to some other significant and interesting figures recently obtained from the mortality statistics of the United States Bureau of Census which refer to 186 cities of 25,000 population or over, situated north of the Ohio River and east of the Missouri River. The population of these cities is something like 29,000,000. The degree of industrial organization has been determined by the Department of Commerce, and death rates have been computed by degree of industrialization. The interesting and significant feature of this research is that the higher death rates are not found in the most highly industrialized communities. Tuberculosis, cancer, diabetes, cerebral hemorrhage, heart disease, pneumonia, nephritis, and accidental deaths all show the highest rates in cities approximately 50 per cent. or less industrialized, and the death rate from all causes is also highest in the 50 per cent. industrialized group. I think these figures are of sufficient significance to bear further study, and that we should withhold final judgment on the influence of industry in shortening the life span until a considerably greater amount of investigation of the subject has been made. Dr. Hayhurst distinguished between adequate medical supervision of industrial groups and those not having such supervision. In the majority of cases the larger industrial organizations are well cared for medically. The big problem in industrial medicine today is the provision of adequate health supervision in the small plants. Dr. Hayhurst assures me that the rather pessimistic picture he has drawn applies only to small plants and not to those that have established medical service. Many large industrial organizations are carrying on good health work, and contributing to the upbuilding of the health of their communities. I think industry is charged, at times, with too much responsibility in the way of community health matters. We sometimes forget that the average industrial worker is in the industrial environment only from 30 to 35 per cent. of his time, the balance of which is his to do with as he wishes. Surely, the sixteen hours or more that he spends outside the plant must have some influence on his health and welfare.

DR. EUGENE LYMAN FISK, New York: He who offers a complete solution of the industrial health problem will fill out a blank form for the millennium; he will settle all health problems, including even the physician's. I do not think that Dr. Hayhurst has overstated the liability carried by industry in the matter of ill health or substandard health conditions. It is important for us to keep in mind not only the sickness rate but also the impairment rate. In the report to the Hoover Committee on the Elimination of Waste in Industry, I presented some figures that suggested the enormous economic loss in this country annually from preventable disease and death. There could be no greater statistical fallacy than acceptance of the death rate in any industry as a true reflection of the actual environmental hazards in that particular industry. I would not be understood as questioning the existence of definite occupational hazards of a specific nature which are preventable by thoroughgoing work on the part of the agencies named by Dr. Hayhurst; but I believe that health workers are coming to understand that they must deal as well with the man himself, and not place the whole responsibility, or even the major responsibility, for ill health in industry on plant management or industrial medicine. An industrial worker who has been badly born, badly fed and reared, who has the scars of epidemic infection in his body, who harbors foci of chronic infection and sources of continuous bodily poison, and who has no knowledge of proper personal hygiene, is beyond the reach of any law or regulation or practice affecting merely his environment and working conditions. With the facts confronting the employer as to industrial waste, and the employee as to his missed opportunities in life and his needless burden of sickness and loss of work, we may now count on the more rapid development of remedial measures and particularly on the fundamental measure which has been so widely endorsed in principle by the medical profession in the last few years—the periodic health examination.

DR. A. W. COLCORD, Clairton, Pa.: Dr. Hayhurst is right in his criticism of the way health and accident matters are handled in the small plants. I fear his statement that one year is lost from accident in the average worker's life is misleading and may furnish material for the muck-raker. The same thing is true of his assertion that two years are lost through tuberculosis. Dr. Fisk struck a keynote when he warned us to make sure of the accuracy of our statements. Much of Dr. Hayhurst's paper is based on facts (?) gathered from investigations made by those outside the industry—often hurried and sometimes incomplete and incorrect. It seems to me that this is the wrong method of approach. If we are to arrive at the truth, why not ask industrial physicians and surgeons to cooperate with state and city health officials in these surveys? I have already proposed a plan to Dr. Hayhurst wherein four national organizations most interested in these matters—the Section on Preventive and Industrial Medicine and Public Health, the American Public Health Association, the National Safety Council and the American Association of Industrial Physicians and Surgeons—may study intensively for one year some one problem, such as "Health and Injuries in the Mining Industry." A report could then be made to each organization at its annual meeting, with recommendations for betterment. As now done, much of the work is desultory and there is wasteful overlapping. Studies of this kind will do much to

16. Wright, Wade; cited by Dublin (Footnote 5).

set us right on the question of causes of sickness in industry. There is a strong tendency to overestimate occupational disease and to underestimate the influence of home environment. We attach too much importance relatively to the eight hours the man spends in the mill and not enough to his personal habits and to the sixteen hours he spends outside.

DR. H. F. SMYTH, Philadelphia: I am chairman of the Industrial Hygiene Section of the American Public Health Association. I tried to arrange for a symposium at our meeting in St. Louis to discuss this very question of the relation of public health workers to industrial matters. I am trying to get this discussed from the point of view of the industrial physician himself and from that of the city health officer. When I looked around to get the city health officer who was directly interested in industrial hygiene, I was informed by one who is considered among our progressive city officials of the medium sized cities that I could not find one because there "wasn't any such animal." I have found since that he was somewhat mistaken, although they are rather rare. I have now succeeded in getting one city health official to take part in our discussion and hope to get one or two more, but it was rather a hard problem to find a city health official to feel that it was his problem at all. That is the object of Dr. Hayhurst's paper, to stimulate the city health officer to feel that he has a definite part in this problem and that while a small percentage of plants and a small percentage of industrial workers are well taken care of by the industrial physician, the majority of industrial workers are not getting this service and should have it. The state and city health officers should both take their part; they should not do it all; the industrial physician should be called in. It is the old story of "passing the buck," and in the study of industrial hazards I have met the same idea in industry itself in the study of the tanning industry in my own state. Visiting the sole-leather tanneries while investigating the anthrax problem, I would be told: "Oh! you won't find anthrax here, go to Philadelphia where they tan goat skins. Don't come to us, we never have any." When I investigated the goat skin tanneries, the man who handles goat skins said, "Don't bother with me, it isn't in goat skins." Now it may look as though Dr. Hayhurst is trying to make the city health official the goat, but he is simply trying to get at the truth.

DR. E. R. HAYHURST, Columbus, Ohio: I am not a statistician; none of the figures I quoted did I collect myself. I am quoting outstanding authorities and journals in which they were published. The question of whether industry is a battlefield or not is, I think, a disputable one. In Ohio we killed approximately 1,000 men last year in our industries. We had 245,000 reports of accidents alone. That does not look very much different from the war record our country made the time our troops were over there—from one state alone. Dr. Sappington showed that there are twenty cases of illness to one of accidents, and seven days' lost time, as the annual average per person, on account of illness. This gives some idea as to just what industry means to the worker in America today. I tried to make it plain that I was not overstating environment or "exopathic" conditions, as Professor Barker prefers to call them. We are today compensating all sorts and kinds of accidents in Ohio because the worker put on the job is not previously examined as to his fitness for it. Thus, many accidents might be prevented if we knew the worker better; but his environment as to accidents is a matter of continual supervision. Industrial diseases might likewise be largely prevented were examination made of workers, but the healthfulness of job requirements are passed over, not investigated and not correlated with accepted standards. The chief point I wish to stress is that the government is derelict in matters of industrial health supervision, local and the state governments, especially, since it pays no attention to the majority of workers because they are in small establishments and because accident prevention and investigation take practically all of the inspectors' time. Health does not stop at 8 o'clock in the morning and begin again at 4 or 5 o'clock in the afternoon for 42,000,000 workers in America, of whom some 15,000,000 are in factories, mines and similar places.

OCULISTS OR OPTOMETRISTS—WHICH?*

JAMES M. PATTON, M.D.
OMAHA

I think we can state with perfect fairness that the majority of optometrists are in the main making an honest effort, through preliminary training and the establishment of definite standards of ethics and proficiency, to render service to the public. However, during the last five or six years there has been a growing activity on the part of certain optometrists, some of whom hold official positions in state optometric organizations, which can be interpreted only as an attempt to restrict the rights of the regularly licensed oculist so far as the fitting and prescribing of glasses is concerned, even looking forward to the time when all oculists will be compelled by law to pass an examination before the board of optometry of the state in which they may be located.

As several of these incidents have recently come to my notice, I wrote the attorney general of each of our states, asking for copies of existing laws regulating optometry or of bills pending in their several legislative bodies. Courteous replies were received from practically all these gentlemen, either enclosing the requested information, stating that they were referring my inquiry to other departments which would send it, or giving definite information as to where it could be secured. A rather careful examination of the statutes and proposed bills has failed to show anything definitely directed against the oculist. In most cases the educational standards for licensure, code of ethics, and penalties for nonobservance of these were clearly stated. There were certain sections of some of the statutes and bills, to be discussed later, which may bear more or less directly on the problem of the oculist. Most of the statutes define optometry as "the examination of the human eye without the use of drugs, medicines or surgery, etc.," or words to that effect, and as a rule exempt "persons authorized under the laws of the state to practice medicine or surgery." At least one of the statutes (Idaho) failed to state that drugs, etc., were not to be used by optometrists or that physicians were exempt from the action of the law. To quote from the compiled laws of Idaho, Section 1, Chapter 86:

> Any person shall be deemed to be practicing optometry within the meaning of this act who shall in any manner, except as provided in Section 15 [exempting merchants, spectacle venders, etc., but not physicians], examine eyes, test eyes, fit glasses, adjust frames, etc.

Section 17 further states that "any person who violates the provision of this chapter is guilty of misdemeanor."

But, you say, a statute of this kind could not be construed to include oculists. Perhaps not now; but "any person" may easily mean an oculist, especially if laws of this character become general.

Although the *laws* are apparently free from any definite action against the oculist, a rather hasty review of the optometric publications and the frank statements of some of the leaders afford ample food for serious thought. Under the title, "New York Society Favors Repeal of Physicians' Exemption Provision in Optometry Law,"[1] Dr. Merin, chairman of the executive committee, moved "that the city's [New York] delegates

* Read before the Section on Ophthalmology at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

1. Optical Journal and Review, March 20, 1924.

to the state convention should favor action toward getting legislation compelling the medical men to pass the optometry examination if they desire to practice optometry." Article 15 of the Public Health Laws amended to the close of the legislation of 1924, Section 300, reads as follows:

> A person practices optometry within the meaning of this article who by any means or methods, other than by the use of drugs, diagnoses any optical deficiency or deformity, visual or muscular anomaly of the human eye, or prescribes lenses, prisms or ocular exercises for the correction or relief of the same, or who holds himself out as being able to do so.

This would clearly indicate that, should a New York oculist wish to fit glasses without the use of drugs or if he should use any mechanical device or prescribe lenses, prisms or ocular exercises, he is of necessity practicing optometry within the meaning of the law. The *Journal* goes on to say that after some debate the motion was carried; but as the 1924 law still exempts the physician, it is evident that they were unsuccessful in their efforts to influence the legislature, but it does not mean that they will not keep on trying until they accomplish their purpose.

Turning now to California, at a recent meeting of the wholesale optical jobbers of California, representatives of the optometry board, heading a committee of leading optometrists of the San Francisco district, made the statement that it was their intent to secure the passage of a law which would compel oculists to pass the board of optometry before being allowed to fit glasses. The California optometrists advertise that they alone are qualified through examination by a state board to fit glasses, and make their appeal for support on this basis. Two wholesale optical houses in Sacramento were notified by the optometrists of the city that unless they immediately discontinued all service to the oculist they would be boycotted. Work on oculists' prescriptions stopped at once and was resumed only after several days, when outside pressure compelled it. A similar attempt was made in Omaha and perhaps in other places and failed; but I understand that in Atlanta, Ga., at least one of the wholesale optical houses discontinued service to the oculists for some time on account of the threat of a boycott from the optometrists.

The secretary of the Wisconsin Association of Optometry is very frank. He says, in part:

> The time has come when we feel that the fitting of glasses belongs exclusively to the optometrists. I can see the look of "holy horror" with which the oculist would view this remark. Mind you, I don't say they are not qualified; at least some of them are anyway; but the fact remains that they do not qualify by passing any examination or coming before any board. We claim that the optometrists should do the glass fitting. I also claim that when there are any symptoms of any diseased conditions whatsoever, the case should be turned over to the medical man at once. . . . We do not want to throw bricks at any one; but fitting glasses belongs exclusively to the optometrists, and we propose to get what belongs to us.

Admitting that this gentleman is perfectly honest in his willingness to turn over "any diseased conditions whatsoever to the medical men," unless he is much more thoroughly skilled in diagnosing them than the majority of the optometrists with which we are acquainted, he will not be able to recognize the symptoms of many of our ocular diseases; and unless he is much more generous than the average, he would hesitate a long while before doing so just on general principles.

The Cleveland optometrists have been a little more fortunate in their legal adventures than some of their confrères. Under the date of Dec. 11, 1924, the *Optical Journal and Review* prints an article entitled "Cleveland Optometrists Win Important Suit against School Superintendent—Injunction against Favoritism to Oculists." They are evidently quoting from the court decision when they state that:

> It is further ordered and decreed that in conducting the physical examination preliminary to the issuance of a working permit to any school child, to determine the physical fitness of said child to work, the said defendant, his agents, representatives, and each of them, be enjoined and restrained from refusing to accept certificates issued by these plaintiffs and other duly qualified and licensed optometrists, who may certify that said minor's eyes have been correctly and properly examined and defects of vision corrected, unless the examination of said child's eyes by the school physician or his assistant physicians reveal an underlying pathological condition requiring treatment by a specialist in diseases of the eye and a refraction in accordance with such treatment. . . . . .

As this ruling implies at least the necessity for a reexamination of all children by the school physician or his assistants who may or may not be qualified to recognize pathologic conditions of the eye, it would seem that the citizens of Cleveland were not only heaping to themselves extra expense, but, what is infinitely worse, exposing their school children to the danger of undetected defects which would be recognized and corrected by an oculist at the time of refraction.

For example, a young woman consulted me a few days ago after having been carefully refracted by an optometrist who has always been very prompt to refer all recognized pathologic conditions to an oculist; but still, on examining the fundus, I found that she had a thrombosis of three of the retinal veins, evidently due to a tuberculous periphlebitis, a serious condition as all will admit, but one which the average optometrist, no matter how honest, could easily fail to recognize.

This attitude of optometrists in many instances, no doubt, is due to faulty instruction rather than selfishness. For example, *Wellsworth*, the organ of the American Optical Company, in a recent article states that:

> It is time to turn whole-heartedly to the job of educating the public—all the public—to its need of our service! The aim of this education is to make the public eye-conscious. The work of the oculist is with sick eyes—which in themselves educate the public through the pain caused the owners of such eyes.

Statements of this character from a supposedly authentic source are particularly misleading to the optometrists and to the public. The most serious "sick eyes" do not educate the public through pain caused their "owners." Simple glaucoma, retinitis, optic atrophy, choroiditis and optic neuritis are painless and often show surprisingly little decrease in central vision, and failure to recognize the pathologic condition —and the optometrist is fitted neither by training nor by experience to recognize it—may easily not only result in the loss of vision but of life itself. "A little knowledge is a dangerous thing."

An enterprising optometrist of La Crosse, Wis., heads a handbill with the caption, "Optometry Straightened Crossed Eyes Twenty Years Ago." This is followed by two views of a rather good looking young woman with a very marked convergent strabismus without her glasses, the eyes straight with the glasses on. Beneath, "These pictures are shown you to

explain what is meant by Optometry." Then follows the Slogan:

OPTOMETRY belongs to the Optometrist.
DENTISTRY belongs to the Dentists.
LAW belongs to the Lawyers.
MEDICINE belongs to the Physician.

His inference is perfectly obvious.

From another source comes the following:

Your attitude to the optometrist, when you visit him for the purpose of having your eyes fitted, should be the same as to the doctor, the lawyer or the dentist. His training has given an insight into general health conditions, and he has the right, and it is his duty, to inquire into the general state of your health.

Recently a young woman, greatly agitated, consulted me with the story that she had been refracted by an optometrist the day previously. He found her to have a moderately high degree of myopic astigmatism, for which he prescribed glasses; and, except for the patient being overcorrected and the lenses off axis, the glasses were not so bad. But the optometrist had seen fit to tell her that she was in a very serious condition; must resign her position, stop all reading, and take a month of complete rest. As a careful examination of the patient failed to reveal any of the grave conditions alleged by the optometrist, a little reassurance with correction of the refraction relieved her symptoms and anxiety. If the optometrist had been satisfied to fit her with glasses and let it go at that, she would probably have been fairly contented; but he could not resist the temptation to give advice on subjects concerning which he was apparently very ignorant. Many of the optometric curriculums include courses in anatomy and physiology of the human eye, which no doubt gives the student an exaggerated idea of his knowledge of that organ; but at best the eye to him is a distinct organ of whose relation to the rest of the body he is blissfully ignorant, while to the physician it is an integral part of the physical make-up and considered as such. We must agree with the report of the British Council of Ophthalmologists that: "No course of training short of that required for full medical qualification can produce the skill and judgment necessary to recognize . . . a case in which the eye through disease or otherwise could not be treated by glasses. . . . Every medical man dealing with ophthalmic cases must be equipped with the knowledge necessary for ordinary qualifications in medicine, and, in addition, the special knowledge of the most delicate and complex sense organ in the body."

From the foregoing it is evident that there is a definite unrest on the part of a widely spread group of optometric leaders who are determined to secure for optometry the sole legal right to fit glasses. If the oculist will pass their board, all well and good. Of course, you say this can never be accomplished. Perhaps not; but we all know how easy it is for such legislation to slip through and how difficult it is to repeal it if it is once enacted.

From the events of the last two or three years, it would seem that an attack is to come from another quarter. For example, in California, where the optometrists are relatively strong, the following statute was enacted,[2] which states that:

It shall be unlawful for any person [except those exempted in Section 10, which includes duly licensed physicians and surgeons] to replace or duplicate an ophthalmic lens or ophthalmic lenses with or without a prescription, or to dispense an ophthalmic lens or ophthalmic lenses from prescriptions, without having at the time of so doing a valid, unrevoked certificate as an optometrist; provided, however, that the provisions thereof shall not be construed so as to prevent an optical mechanic from doing the merely mechanical work upon such lenses. Any persons who shall replace or duplicate an ophthalmic lens or ophthalmic lenses with or without prescriptions, or shall dispense an ophthalmic lens or ophthalmic lenses from prescriptions, shall be deemed to be practicing optometry within the meaning of this act. An ophthalmic lens, within the meaning of this act, shall be any lens which has a spherical or cylindrical or prismatic power or value.

10. It shall be unlawful to take or make any measurements for the purpose of fitting or adapting an ophthalmic lens or ophthalmic lenses to the human eye, and any person who shall take or make any such measurements for such purpose shall be deemed to be practicing optometry within the meaning thereof.

Section 11, Paragraph 3, states in part that:

The certificate of registration of any person registered as provided for in this act may be revoked or suspended for a fixed period by the state board of optometry who directly or indirectly accepts employment to practice optometry, from any person not having a valid, unrevoked certificate of registration as an optometrist or from any company or association the managing officer or officers of which do not have a valid, unrevoked certificate of registration as optometrists.

An attempt to pass a variation of the same law is being or has been tried in Mississippi, Colorado, Missouri, Texas and perhaps in some of the other states.

But, you say, why should the oculist worry about this? If the optometrists and the manufacturing opticians have a quarrel among themselves, let them fight it out. Dr. Derby, in an address before this section a year ago, said: "I believe it perfectly possible in the larger cities for the ophthalmologists to get together with the opticians and come to a working agreement which will be reasonably satisfactory to both." Dr. Derby is perfectly correct in his statement, but this is exactly what the optometrists *do not want*. At an open meeting of the California State Board of Optometry, July 31, 1924, a vice president of the association insisted that all optometrists boycott one of the large manufacturing optical houses because they served the oculist on an equal basis with the optometrist. In the San Francisco *Ad Age*, Aug. 20, 1924, Dr. Brombach, president of the State Optometric Society, is quoted as saying that:

Certain manufacturers and wholesalers of optical lenses and supplies are in conspiracy with "quack" optometrists and oculists to defraud the public and bring disrepute upon the optometric profession,

evidently implying that such "quack" oculists were those who sent their prescriptions to an optician just as Dr. Derby suggests instead of to retail optometrists.

It is evident that the oculist has no recourse but to send his patients to his competitor, the retail optometrist, who has the privilege at least of criticizing the prescription and inviting the patient who has now become his customer to return to him for correction if the lenses turn out to be as unsatisfactory as he fears they will be. One California oculist of note told me that less than 25 per cent. of his refraction patients ever returned after sending them to the retail optometrists. But, you say, why not send them to the retail dispensing optician who does not do refraction? In California at least there is legally no such person, as the state board of optometry has recently ruled that unless a dispensing optician, required by law to have an optometric license, installs the equipment for, and does a certain amount of

2. Optometry Law, Chapter 164, Approved May 17, 1923; Section 10½, paragraph 9.

refracting, his license may be revoked. Where such rulings are in force, the dispenser must be a registered optometrist and all his assistants who have anything to do with the adjustment of glasses must likewise be registered. He must have an expensive equipment, and his operating overhead will be proportionally heavy. He is a salesman, and it is to his interest to equip your patient but his customer with as expensive an outfit as possible. Furthermore, this optometrist has a file of your refraction cases, with copies of your prescriptions and with a perfect right, according to his standard of ethics, to solicit their business in such manner as he may see fit.

It was thoroughly impressed on me years ago by my colleague, Dr. Harold Gifford, that it was as much the duty of the physician to protect his patient from exploitation by overzealous optical salesmen as it was to supply him with an accurately determined prescription. The state board of optometry of one of our states, acting under its enabling act, recently ruled that the advertising of prices in connection with the practice of optometry and optical service constituted a breach of ethics and made the offender liable to revocation of his license to the board because of violation of this ruling. However, this action brought down on them the following resolution [3] from the advertising club of one of their cities:

Resolved, That the ——— Advertising Club regards any attempt to interfere with the right of an individual to advertise prices, where such advertising is correct in statement and not deceptive, as unwarranted and menacing and constitutes an assumption of authority in the abridgment of legitimate personal freedom and initiative which is not intended by law.

But, some may say, What is the difference? Let the patient take care of himself. The automobile manufacturer has seen fit to protect his patron by establishing certain fixed charges for services on his make of car; the contract of the phonograph salesman is canceled if he sells above the published price; and I insist that we as physicians have an equal right and responsibility in protecting our patients against exorbitant prices for the filling of our prescriptions. Our fee should be in accordance with the service rendered and, when possible, our prescription for glasses should be sent to a manufacturing optician with whom we have a definite agreement as to the price he shall charge our patients, this price to include a reasonable but not exorbitant profit. If situated so he can do all frame fitting, a definite charge should be allowed for this service. It may be necessary to alter agreed prices from time to time according to general commercial conditions; but prices are not to be changed without consulting the oculist, nor should the optician be permitted to substitute a more expensive type of frame or lens than that ordered even at the request of the patient, without first consulting the oculist who wrote the prescription.

The foregoing plan reacts helpfully in many ways. For example, it relieves the oculist of the troublesome details incident to selecting and fitting frames; the loss from unpaid spectacle bills, breakage, etc. His patient has the advantage of specialized service in the manufacture of lenses and adjustment of frames in contrast to that which can be rendered by the licensed graduate optometrists. The president emeritus of one of the large western schools of optometry says:

You all know that I know just exactly what training, both theoretical and practical, the optometry student is given according to the law, in our school or any other regular school of optometry. The prescribed course does not call for the practical knowledge of any of the essentials of making and delivering a pair of glasses to a patient. . . . In our school we do not pretend to make an optician of him, and neither does he expect to become one, but according to sections 9 and 10, he can't help himself, and some of him must eventually become a mechanic if it is in him.

From this statement by one of their leading educators, who in your opinion is best fitted to care for the filling of our prescriptions, the licensed optometrist or the thoroughly trained manufacturing optician? Furthermore, patients soon learn that the oculist has no financial interest in prescribing glasses, respects him accordingly, and assures his friends that the doctor will not put glasses on him unless he needs them. And, most important of all, at the time of refraction he is given a thorough intra-ocular examination, and disease is discovered if present, which in many cases may prevent an otherwise fatal outcome.

CONCLUSION

Let us remember that there is an active group of influential optometrists who are perfectly willing to prevent by law all who are not registered optometrists from fitting glasses, and that active measures are contemplated to compel the oculist to pass their boards before he can legally practice this phase of his profession. Let us be suspicious of bills regulating optometry containing ambiguous clauses, or those restricting the rights of manufacturing opticians who ordinarily serve the oculist. With Dr. Derby, let us remember that ours is a profession and not a trade. We cannot afford to face the charge of making a profit out of the glasses we prescribe, but we do have the right to protect our patients from the exorbitant prices and high pressure retail sales methods of the optometrists. We must be awake to the situation; and, while we may have no quarrel with the optometrist who limits himself strictly to his own field, at the same time, we owe it to our profession and to our patients to forestall any legislation which will limit the fitting of glasses to a single group.

600 Brandeis Theater Building.

3. Ad Age, Oct. 8, 1924.

ABSTRACT OF DISCUSSION

DR. C. D. WESCOTT, Chicago: To me a refraction case is an opportunity to make a complete study of a pair of eyes for which I may not only do the best I can to promote their present efficiency, but by my advice and counsel as a physician, keep them well for all time. I cannot make such an examination at any age to my own satisfaction without the use of drugs, and I am finding increasing need of all the general medical knowledge I possess. We are all seeing in the eye, almost daily, evidences of general disease, perhaps not yet manifest in other parts of the body and at a time when something can be done about it. I ask my patients to report once a year in order that we may know that everything is well and at the same time I advise a general physical examination. Some of my friends have been taking my advice for thirty-five years, and it is a joy to witness the results. There is surprisingly little cataract, glaucoma, or disease of the retina. The optometrist is not prepared or legally qualified to render such service. Unfortunately, there are at least 50,000,000 people in this country who should have a good refraction every two or three years. There are only 974 ophthalmologists who are subscribers to our *Transactions*. Less than 450 were registered last year at Chicago. Let us assume that there are 2,000 qualified eye men in the United States. I am not very good at mathematics, but the answer I get is this, that it is impossible for every one to get the service we would like to give and there are some people so situated financially or geographically, or both, that they will not consult the ophthalmologist. Is there a field for the optometrist and can we

do anything to help—not the optometrist perhaps, but the people who now suffer at his hands? In spite of all our opposition, optometry is licensed or regulated in every state in the Union and the District of Columbia. From what Dr. Patton has told us and from literature kindly furnished me by Dr. Woodward, director of the Bureau of Legal Medicine and Legislation, the optometrist is now attempting to practice medicine without legal or moral right. He hates us bitterly for our opposition, and will "get even" in any way that he can.

DR. W. C. WOODWARD, Chicago: I can endorse everything Dr. Patton has said. Possibly I might add, too, that current optometric literature indicates a willingness on the part of the optometrist to edge over into the field of medicine, even while endeavoring to keep the ophthalmologist from fitting glasses. Such a committee has been suggested, and members of this section are already working on this problem and will tell us what we had best do about it. We shall continue to keep in touch with movements such as that described by Dr. Patton, and shall pass to you such information as we get.

DR. ALEXANDER DUANE, New York: It seems to me that this is a paper requiring not so much comment as action. On the one hand, we have a large body of men, militant, well organized, commercially minded, with the hustling and the advertising methods that commercialism implies, frankly seeking to arrogate to themselves the right to handle, prescribe for and fit cases of refraction. On the other hand, we have the medical profession, unorganized, apathetic or even, in large part through ignorance, allowing the claims of the optometrist and giving them active support. The public, furthermore, is naturally on the side of those who advertise much and who claim to have superior skill and more scientific methods. In meeting this situation it will not do simply to cite cases, which are frequent enough, but yet exceptional, in which optometrists have done some obviously serious damage by their ministrations. Much rather should we assert the broad principle that the proper treatment of every case of refraction requires not simply a correction with glasses, no matter how carefully fitted, but a consideration of the symptoms, the attendant eye condition, the general state and psychologic characteristics of the patient, and the numerous conditions besides eyestrain which may give rise to the symptoms. In other words, it requires a broad medical knowledge and experience which none but an educated physician can possess. The half knowledge that the best educated optometrist can gain is a fallacious and often a dangerous guide in appraising the true significance of refractive errors. In announcing and defending this principle we should do three things: First, we should be sure that we ourselves are living up to it; in other words, that we are examining our patients in no perfunctory way, that we are not simply examining for glasses, but with patience and care are going into all the other factors that may affect him and are rendering him a sound judgment on the basis of this examination. Then, and then only, shall we do our full duty to the patient and make it clear to him that we have done for him what no optometrist, however skilled, could have accomplished. In the second place, we must educate the medical profession. Hundreds of physicians are sending their patients to optometrists simply because they do not recognize the cardinal fact that refraction and medicine are intimately interwoven and that the functions of the eye cannot be dissociated from the functions of the body in general. Finally, we must educate the public by widely diffused, well prepared information.

DR. CHARLES A. BAHN, New Orleans: Within fifteen years refraction will probably be almost entirely out of medical hands because we are not willing to assume the full responsibility of conserving the public's eyesight in a reasonable, practically complete and economic way. The evident intent of optometry is to force ophthalmologists out of the field, to use our prescriptions as an expedient for the present, but to use the family physician almost exclusively in the future. Every optician is potentially an optometrist when finally the opportunity offers. The time has come when we shall either have to assume the full responsibility for conserving the public's eyesight with all that goes with it, which includes the supervision of the dispensing of glasses, or else we shall have to get out of refraction as gracefully as we can before we are forced out. Our problem is this: Do we want to make ourselves competent to assume this responsibility or do we want optometry to do it? If we want this increased field of honest usefulness, we shall have to get on the job and thoroughly understand all its phases and render the public greater and more practical service. If we do not want this responsibility, let us be frank enough to say so. There is but one way to check optometric legislation, and that is to stop feeding optometrists. Our present attitude of feeding optometry with one hand and throwing bricks at it with the other is vicious If optometry can serve the public better than we, let us be honest enough to say so. If not, why should we be ashamed or afraid to educate the public and the medical profession about ourselves and that we shall serve them in a complete, honest and efficient way? The only hope that I can see in saving refraction to medicine lies in prompt, practical, aggressive action on the part of the membership, of you and me; in careful thought on this problem, and in a keen realization that the handwriting is on the wall, and that we must either get in or get out.

DR. GEORGE S. DERBY, Boston: Dr. Patton's paper is a timely one. In most states we meet this situation constantly in one or more of its ramifications. With the optometrist it is good business to obtain as complete a control as possible of the refraction and the selling of glasses. It means money in his pocket, and that is one of the strongest urges of nature. They are organized primarily from a business point of view, secondarily from the educational and scientific. On the other hand, we are organized in the opposite manner—primarily from the educational and scientific standpoint, and not at all from the business side. Therefore, when it comes to fighting legislation that is contrary to our ideals and even to our business interests, we must depend on the amateur efforts of unorganized volunteers. When such a situation as Dr. Patton described threatens, it seems to me that it is up to ourselves and to our local ophthalmologic societies to be on the alert. In other words, to have a permanent committee which should keep its eyes open for harmful legislation. If such legislation is introduced it should be immediately called to the attention of the ophthalmologic societies, funds should be raised, and if necessary the state medical societies should be called on for help and an organized effort should be made to defeat such legislation. I think Dr. Woodward brought out one very good idea, and that is that it is absolutely up to us, and we must do the work in our own state and county societies.

DR. E. E. HOLT, Portland, Maine: During the World War I was medical aide to the governor of Maine, in forming and supervising the medical advisory boards and had my office in the capitol with the adjutant general, who was instrumental in getting the optometry bill through the legislature and was president of the Maine Association of Optometrists, also chairman of the examining board of optometry. At the hearing for establishing this board of optometry, among other things it was stated that the optometrist would confine himself to the fitting of glasses and would immediately refer all cases needing medical treatment to the ophthalmologist. I showed the fallacy of expecting men to do a thing they didn't know how to do, in such a way that there was an estrangement between me and the optometrists. The adjutant general, being a good fellow and a sensible man, finally admitted that it would be impossible for an optometrist to know the cases that might need urgent treatment. It is a trade with them and they are in it purely for the business there is in it, and, like men in any other business, are doing everything that they think will give them more business. If the optometrists find that it will be for their best interests to do the things that Dr. Patton has pointed out that they might do, you can be assured that they will attempt to do them, so it behooves us to be on our guard, as he suggests, and do better work.

DR. HIRAM WOODS, Baltimore: An attempt was made last year in Maryland to amend the present optometry law. Certain optometrists, but not all of them, sought the right to use the term "Doctor" before their names, but with "optometrist" following. When the present law was enacted, several optometrists in Baltimore recognized the wrong in allowing any one

not a graduate of medicine to use them term "Doctor" or its equivalent. The present law reads, in part: "Any person holding a license under this subtitle who shall attach to his name or use the title, M.D., Surgeon, Doctor, Physician, Eye Specialist, Oculist, Ophthalmologist, Doctor of Ophthalmology, Doctor of Optometry, Doctor of Optics, or any title containing the word Doctor or the abbreviation that will or can convey the impression that he is engaged in the treatment of diseases or injuries of the human eye, or make use of drugs, medicine or surgery, in the practice of optometry, shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not more than two hundred dollars, or imprisoned not more than three months, or both fined and imprisoned, and his license may be revoked, in the discretion of the court." The proposed amendment to this paragraph was: "Provided, however, that any person who has received a degree from a legally chartered college having the authority to give the degree of 'Doctor of Optics' or 'Doctor of Optometry' may use the title 'Dr.' in connection with his name, provided his name is followed by the word 'optometrist.'" It is easily seen that the word "optometrist" as herein used does not modify the generally accepted meaning of the word "doctor." The popular meaning of a name preceded by "doctor" and followed by "optometrist" would almost certainly be that the individual was both a "doctor" and an "optometrist." The term "doctor" has one popular significance when used in connection with any defect of the human body. The bill passed the lower house but was defeated in the senate.

DR. JOHN O. MCREYNOLDS, Dallas, Texas: We all appreciate the splendid work that has been done and will be done by the Section on Ophthalmology of the American Medical Association. But this is a national organization. It functions as a national organization. The dangers that have been mentioned must be met through the channels of state organizations and not national organizations. There has been no effort, and there probably will be no effort, made to carry these objectionable measures through the national congress, but they have been carried, and will be carried, through state legislatures. It is, therefore, in each individual state that this battle must be fought out. We may resolve in the Section on Ophthalmology that a certain course of procedure is best, and that may be the best procedure on one battle field, but it is not necessarily the best procedure where the conditions are different. The battle must be fought in each state legislature according to the problems presented.

DR. J. W. KIMBERLIN, Kansas City, Mo.: I think one of the layman's indictments of the physician is true. There are three kinds of men doing refraction. The first class, which we believe is the only class that has a right to, are the men who are trained in medicine, men who have later taken a thorough training in the eye. In the second class would be optometrists, opticians and pedlers of ten cent store stuff. The third class is the class on which the most of their indictment is based, graduates in medicine who have had no training in the eye or in refraction. The indictment is that many a man who has the degree of M.D. and has the legal right to do refraction knows much less about the eye than they do, and they are correct. If there is an injustice there, and I really believe there is, touching the welfare of the people, I believe that it should be corrected not by the optometrist or their boards, but by organized medicine. The board for ophthalmic examination is a fine step in the right direction, and the degree given in Colorado of Doctor of Ophthalmology is fine. I think organized medicine should work out some plan which will prevent unqualified medical men from prescribing glasses, but it will be a difficult problem to solve.

DR. CHARLES P. SMALL, Chicago: In Illinois there is apparently a very strong effort on the part of osteopaths and others to try to put on the statute books laws that would be most unacceptable to ophthalmologists. A couple of weeks ago I was called on by an optometrist who told me about a bill they were trying to defeat. The bill had not come up for final reading, but if passed it would allow osteopaths, chiropractors and every other cult to refract eyes. He wanted to know what we (the Chicago Ophthalmological Society) were going to do about it. I got as busy as I could by interviews and letters and telegrams. Dr. Woodward gave me some practical help, saying that it really was a matter for the state medical society rather than for the local ophthalmological society. This particular bill was killed before it came up for the last reading, and it gave us a little time to think the matter over. We have acted on Dr. Woodward's suggestion and have appointed a legislative committee of the Chicago Ophthalmological Society, consisting of three members from three different cities of the state, who will keep their eyes open and be ready to notify the society of anything that may come up, in time to take necessary action.

DR. JOHN A. DONOVAN, Butte, Mont.: I am chairman of the committee on legislation in our state society, and this particular bill was sent to every ophthalmologist in the state and did not go through without our approval. In our state we watch things, and they do not often pass a bill without our consent.

DR. J. M. PATTON, Omaha: If the two suggestions that have been mentioned here can be carried out, namely, the appointment of a strong central committee from this organization to head up our consideration of the optometric situation and a local committee to see that each state is adequately organized in order that the situation may be kept under close observation, our discussion this afternoon has not been useless. We know that the other group, the optometrists, are thoroughly in earnest about getting control of the fitting of glasses. A bill was introduced by the optometrists at the last session of the Wisconsin legislature which would require all physicians graduating in that state after Jan. 1, 1926, to take two years additional in some recognized school of optometry and then pass the optometric state board before they could legally fit glasses. Happily, this did not become a law, but it does not mean that they will not try again. Dr. Bahn has put the thing squarely: Shall we refract or not refract? I say it is up to us. Some of us may not care about refraction, but when we accept the degree of physician, we accept the responsibility that goes with it. The members of the British Medical Association in considering the demands of the optometrists maintain, and I am sure we will agree with their views, that no individual is sufficiently trained to take the responsibility of caring for the ills of the human eye with training short of the complete education necessary to secure a license to practice medicine.

Endocrine Therapy.—The antagonism between epinephrin or thyroxin, on the one hand, and insulin, on the other, according to Langdon Brown (Special Discussion on Endocrine Therapy, *Proc. Roy. Soc. Med.* **18**:27 [June] 1925) is not the direct antagonism of pituitary extract and insulin, but an indirect one through the liver, epinephrin and thyroxin tending to empty the glycogen reservoirs and to flood the blood with sugar, while insulin checks the conversion of protein and fat into glycogen and at the same time increases the assimilation of sugar by the tissues. Such observations as these have led Calvert to apply insulin to the treatment of hyperthyroidism, while others have used it in the treatment of nondiabetic acetonemia. Its effect on fat metabolism suggests that, in combination with dextrose, insulin might be useful for hepatic toxemias such as postanesthetic vomiting. Cramer has also shown that insulin can prevent death in the experimental hyperpyrexia produced by tetrahydronaphthylamine through stimulation of the thyroid, suprarenals and probably the anterior lobe of the pituitary. This is an observation worthy of clinical application. The antagonism between the suprarenals or thyroid and the pancreas is also suggested by Loewi's test. The cooperation between pancreas and parathyroids is shown by the liability to glycosuria after parathyroidectomy, and by the calcium drainage resulting from defect of either of these glands. The theory of cooperation between the suprarenals, thyroid and pituitary, on the one hand, and between the pancreas and parathyroids, on the other, and of antagonism between these two groups, has experimental support.

EPIDEMIOLOGIC METHODS *

DON M. GRISWOLD, M.D., D.P.H.
State Epidemiologist, State University of Iowa
IOWA CITY

Epidemiology is such a recently organized branch of science that standard methods or standard practices have not yet arrived. This is as it should be, for a

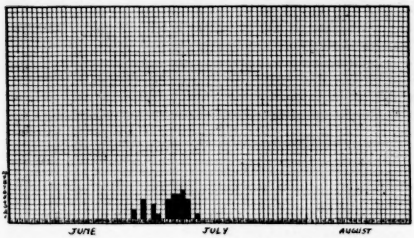


Fig. 1.—Chronological chart: cases of typhoid at Pella, Iowa, 1920.

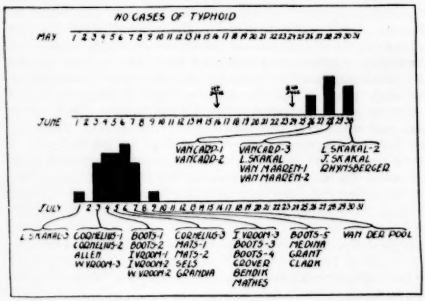


Fig. 2.—Outbreak of typhoid, Pella, Iowa, June, 1920: chronological chart; date of onset.

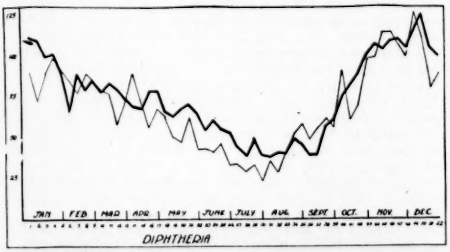


Fig. 3.—Chronological chart for a city of 1,000,000 population: heavy line, normal expectancy; light line, cases reported in 1919.

solution should be fairly uniform before purification by crystallization is attempted.

An epidemiologist working in a single city can accumulate many data that are more or less static. Such matters as the possibilities of pollution of the water supply, the amount of unpasteurized milk sold and the accuracy of the pasteurizing process used, the unsewered districts and many other such data when once gathered and kept up to date aid materially in the epidemiologic study of any outbreak.

The state epidemiologist, however, has quite a different set of problems. His work is found in small towns as well as large ones, in cities with well organized health departments as well as towns with none; the

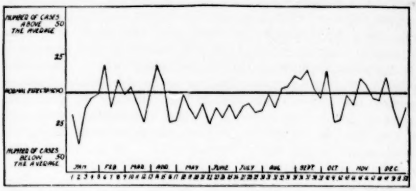


Fig. 4.—Chronological chart for a city of 1,000,000 population: heavy line, normal expectancy; light line, cases reported by weeks.

variety is unending. Out of an experience of this kind, a few of the many methods tried are being found more applicable than some others.

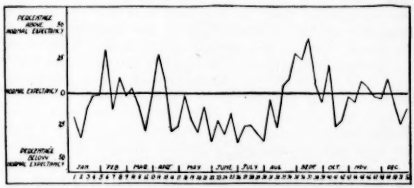


Fig. 5.—Chronological chart for a city of 1,000,000 population: heavy line, normal expectancy; light line, per cent. of variation from normal expectancy.

A slogan of the U. S. Public Health Service might be paraphrased as follows:

Before adequate administrative control of communicable diseases can be obtained, it must be known when, where and under what circumstances cases are occurring.

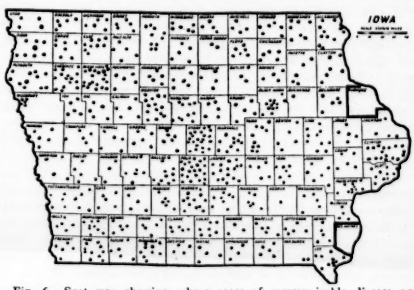


Fig. 6.—Spot map showing where cases of communicable disease are occurring.

We have all given up the idea that the attending physician is going to gather any great amount of epidemiologic data for us. The attending physician has served his purpose when he has informed the health department where a health menace exists.

* Read before the Section on Preventive and Industrial Medicine and Public Health at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

The epidemiologist must take this clue and work out his own salvation. His first problem is to determine when an epidemic exists. There are many divergent opinions on this point. Some newly appointed health officers feel that an epidemic exists when more cases

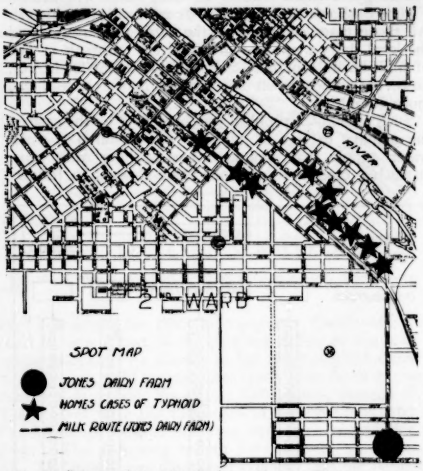


Fig. 7.—Relation of an outbreak of typhoid to a milk route.

CASE RECORDS

NAME	AGE	DATE OF INSHPTIONS	MILK SUPPLY	WATER	TOILETS	ICE	CONTACT
FRANK JONES-9		APRIL 1	LIVES AT JONES DAIRY FARM			NOT	DIAGNOSED
VERA JONES-11		APRIL 14	" " " " "			"	"
LEORA JONES-14		MAY 27	" " " " "			DIAGNOSED	TYPHOID
MELVIN JONES-35		JUNE 5	OWNER OF JONES DAIRY FARM			DIAGNOSED	TYPHOID
LELAND GOOSH-		JUNE 6	JONES DAIRY FARM		CITY	INSIDE	NONE	NONE
EVELYN CONNOR		6	" " " " "				"	"
" LOWE		6	" " " " "				"	"
" LOWE		6	" " " " "				"	"
" LOWE		6	" " " " "				"	"
" LOWE		6	" " " " "				"	"
CLYDE ALDRICH		6	" " " " "				"	"
LAWRENCE ALDRICH		6	" " " " "				"	"
GLEN DOYLE		6	" " " " "				"	"
" KRAUTMEYER		6	" " " " "				"	"
" KRAUTMEYER		6	" " " " "				"	"
" KRAUTMEYER		6	" " " " "				"	"
" KRAUTMEYER		6	" " " " "				"	"
JOY BURKE		6	" " " " "				"	"
RALPH BURKE		6	" " " " "				"	"
MR. HOFFMAN		JUNE 7	" " " " "				"	"
MISS HOFFMAN		7	" " " " "				"	"
MISS SHIRLEY		JUNE 8	" " " " "				"	"
MRS. WHITTAMORE		8	" " " " "				"	"

Fig. 8.—Case records of an epidemic.

than usual are reported. Such confidence in the usual morbidity reports is fast disappearing. Some of the more conservative members of this group feel that the safest index of the existence of an epidemic is the increase of deaths from all causes. It is evident to all of us that some nonemotional method of determining when an epidemic exists or is impending is highly desirable. For example, there are many court decisions to the effect that vaccination against smallpox can be required "when an epidemic exists or is impending."

Figures 1, 2, 3, 4 and 5 illustrate methods that have been used to decide when an epidemic exists or is impending.

No. .... Name..... Address..... Reported by..... Date.....
Age.... Sex.... Marital state.... Color.... Nationality.... Occupation....
No. adults.... No. children.... Ages..... Sanitary conditions.....
Water used..... Flies..... Garbage..... Vermin..... Stable near.....
Milk used: Amt..... Bottled..... Loose..... Dealer.....
Work on Premises: Flowers..... Tailoring..... Sewing..... Cigars.....
Millinery..... Laundry..... Other.....
Any member of household connected with handling public food? .....
School attended..... Address..... Class..... Last day in school.....
Special classes, parties, excursion, theaters, etc., attended.....
Visits and visitors in last two weeks.....

Fig. 9.—General data that appear on reverse side of all case record cards. These cards are 5 by 8 inches.

SMALLPOX

Dates: Onset..... Quarantine..... Release.....
Type of disease .....
Previous vaccination history .....
Family: Adults..... Children..... Vaccination history.....
Address of intimate associates (school or business).....
Hospital..... Termination.....
Date..... Investigation.....

Fig. 10.—Individual data in a case of smallpox.

TYPHOID FEVER

Date of first symptoms..... Date of taking bed.....
Doctor's first call..... Physician..... Date reported.....
Previous typhoid history.....
No. in family: Adults.. Children... Help.. Occupation... School attended...
Family history for typhoid.....
Water..... Milk..... Ice..... Food..... Flies..... Toilet.....
Fresh vegetables..... Other possible sources.....
Widal tests.....
Blood cultures.....
Complications..... Hospital?..... Termination.....
Date..... Investigation.....

Fig. 11.—Individual data in a case of typhoid.

CHRONOLOGICAL CHARTS

Figure 1 represents the simplest form of chronological record and is suitable for small villages. Figure 2 is used in towns or small cities where the names of patients are well known. It is a distinct aid to the health officer or the state epidemiologist to getting cases reported. Figure 3 shows the normal expectancy

of diphtheria by weeks in a city of one million people. The light line shows the number of cases reported each week for a certain year. This gives the administrative health officer a view of the present situation contrasted against the experience of past years. The relation of the deviation from the normal expectancy is shown better in the next chart. Figure 4 visualizes the normal

SCARLET FEVER

Dates: Onset..... Quarantine..... Release..... Doctor.....

Dick test: When..... Who..... Result.....

S. F. immunization: Date.....

Probable source of exposure.....

Possible sources.....

Persons known to be exposed.....

Name..... Age... Immunity..... School..... Disposition..... Remarks.....

Date..... Investigation.....

Fig. 12.—Individual data in a case of scarlet fever.

DIPTHERIA

Cultures, dates and results { Nose..... Throat.....

Dates: Onset..... Quarantine..... Release.....

Schick test: When..... Where..... Who..... Results.....

Toxin antitoxin administered..... Date.....

Antitoxin used..... Amt..... Date.....

Probable source..... Complications.....

Possible sources.....

Persons known to be exposed to this case { Immunity: Disposition, age, school attended, etc.

Name..... Age.... Immunity..... School..... Disposition, etc.....

Date..... Investigation.....

Fig. 13.—Individual data in a case of diphtheria.

expectancy as a straight, horizontal line. Above this line are plotted the cases reported in excess of the normal expectancy, and below the line are plotted the number of reported cases less than the normal expectancy. The chart shows the progress week by week and is very valuable in detecting when an epidemic starts. It is particularly useful in cities of more than 100,000 population. Figure 5 is an even more delicate indicator of epidemic conditions. This chart is basically the same as the preceding one except that it shows the percental variation from the normal expectancy. Figures 3, 4 and 5 have been found very useful in health jurisdictions large enough to have a normal expectancy as expressed in weekly averages over at least five years. For health jurisdictions smaller than this, Figures 1 and 2 are more suitable.

SPOT MAPS

Figure 6 is a spot map showing where cases of communicable disease are occurring. This method of locating where the epidemic exists is so well established that further mention will not be made. Figure 7 shows the relation of one outbreak of typhoid to a milk route.

CASE RECORDS

If we limit this presentation to "when, where and under what circumstances cases are occurring," the third part of our problem now comes up for consideration. The best method for assembling the various data having to do with the circumstances surrounding the occurrence of the cases is known as the case record. For a small outbreak of comparatively simple epidemiology, a small number of field notes will suffice. Figure 8 shows the case records of such an epidemic. All those cases occurred on the same milk route, and the local dairy inspector identified the outbreak as one of milk-borne typhoid. Such simple methods do not, however, suffice when the factors in the spread are more complex.

Such a complex problem was presented by the case of the urinary carrier of typhoid who polluted a small water supply that was used for washing milk cans. In such a case there are four main threads to follow:

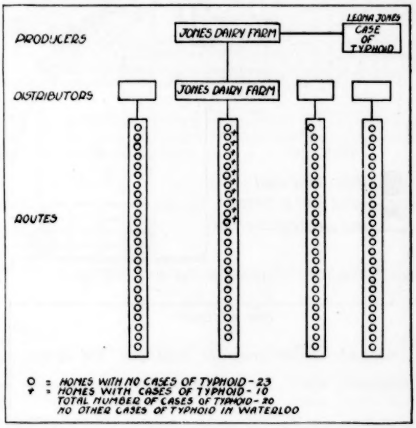

PRODUCERS
JONES DAIRY FARM
LEONA JONES CASE OF TYPHOID
DISTRIBUTORS
JONES DAIRY FARM
ROUTES
○ = HOMES WITH NO CASES OF TYPHOID - 23
▼ = HOMES WITH CASES OF TYPHOID - 10
TOTAL NUMBER OF CASES OF TYPHOID - 20
NO OTHER CASES OF TYPHOID IN WATERLOO

Fig. 14.—Milk chart.

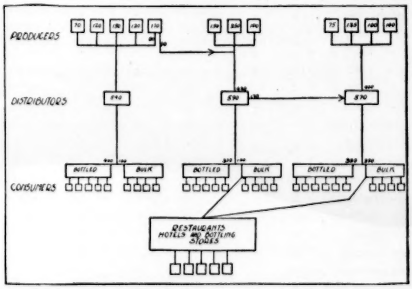


Fig. 15.—Milk distribution.

the carrier, the water and the milk, and, later, the contact cases.

For these outbreaks of more complex epidemiology, we have found the following series of case record cards most useful: On one side of these 5 by 8 cards are the general data applicable to the patient and his environment, regardless of the disease. The reverse side is arranged for the data to be gathered for each individual disease. The detailed data, when tabulated,

should give important clues for further study (Figures 9-13, inclusive).

SPECIAL GRAPHS

Figures 14-16, inclusive, are special graphs, each for a particular purpose. If they are properly made they should each tell their own story without additional text.

Figure 17 illustrates the way the pertinent data regarding an outbreak are assembled and submitted to

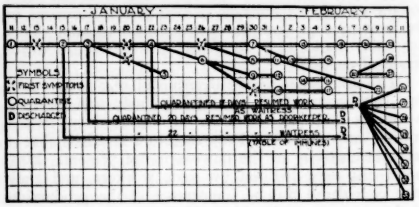


Fig. 16.—Outbreak of scarlet fever, state juvenile home, Toledo, Iowa, 1923.

local authorities for their information. Copies of this chart become a part of the permanent files of the state epidemiologist. As shown in the chronological chart, Frank Jones, aged 9 years, was taken sick, April 1, and fourteen days later his sister, Vera Jones, became ill. These cases were not diagnosed at the time, but later, developments indicate that they may have had typhoid fever. The following month Leona Jones was taken ill. The illness was diagnosed typhoid, and the patient was removed to the hospital. Nine days later, June 5, the father of these children showed the first symptoms of typhoid. On the following day fifteen cases appeared in Waterloo and two cases each on the two succeeding days. As shown in the case record chart, all these patients used milk from Jones' dairy farm, and, as shown in the spot map, all the cases in the city at the time were on Jones' milk route. As shown in the special graph, there was typhoid in ten of the thirty-three homes using Jones' milk, while there were no cases of typhoid fever in homes buying milk from other dairymen.

The outbreak was clearly one of milk-borne typhoid, and immediately subsided when the use of milk from the Jones dairy was stopped. Jones' dairy farm milk was not pasteurized.

ABSTRACT OF DISCUSSION

DR. LOUIS I. HARRIS, New York: One of the pertinent questions raised by Dr. Griswold is the question, "When is an epidemic?" Dr. Griswold attempted to indicate in a scientific manner one way of determining when an epidemic exists. From various motives, many communities are unwilling to acknowledge the existence of an epidemic. We cannot leave this to individual initiative, but should have definite standards and indexes. We have a few standards for such determination, such, for example, as were furnished in the typhoid epidemic in Chicago. Dr. Bundesen and his staff showed in graphic form an epidemic index which left nothing to the imagination. We are grateful to Dr. Griswold and others who are lifting these things out of the bogs of confusion and putting the subject on firm ground. Some of these charts, as Dr. Griswold indicated, are not applicable to all communities. It is obvious that one cannot use a spot map if there is an enormously large outbreak, as in the influenza epidemic in large cities in 1918. One will be hopelessly overwhelmed if one does so, and one will be in hopeless confusion. Spot maps, however, have a very definite value, depending on the district one is dealing with and the volume of work to be taken into account. An epidemiologist of necessity should incline his ear to town gossip. That has not been emphasized as it should be. One may thus learn at the outset what is going on in the hospitals or in private practice, and whether there has been any unwonted number of cases of typhoid fever. Has any laboratory been diagnosing an unusual number of typhoid stools or doing Widal tests? These are all relevant and quickly help us to determine whether we may be facing an outbreak. Dr. Griswold showed the incidence of typhoid fever in certain cities from week to week. While of value, it does not often help because of the seesawing and fluctuations to which one must grow accustomed. In short, there must be as many sources of news and information as possible. I wish to congratulate Dr. Griswold for showing a wide diversity of charts and maps which lend themselves to the graphic visualization of conditions with which we have to deal in everyday work in small and large communities.

DR. ALEXANDER C. ABBOTT, Philadelphia: Unless I am mistaken, I had something to do with the training of Dr. Griswold. The paper he presented is a very enlightening one. Another is the epidemic, the question we have been facing rather recently in the matter of pneumonia. We have heard of epidemics of pneumonia. It does not impress me that pneumonia is epidemic; anyway, it is simply a fluctuation in a wide area. So it is with many other things. I scarcely think it is worth while to play with words. I think we know that at times a disease is more frequent in the community than at others, and where one has to find out what is the cause of the increase. The problem of infectious disease is always a serious one in any large community, but

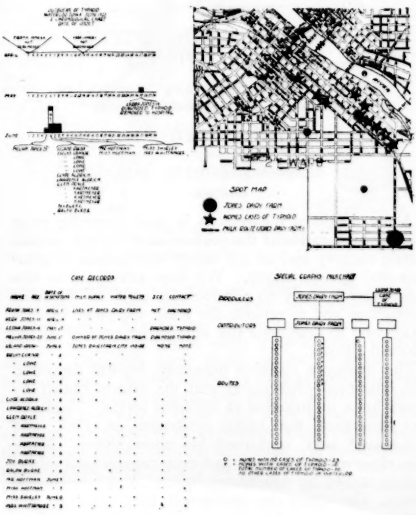


Fig. 17.—Manner in which the pertinent data on an outbreak are assembled and submitted to local authorities.

with us the outstanding one used to be typhoid. For many years we were almost a notorious typhoid center. The whole situation has changed, and promptly, with a purer filtered water supply. We found also that the milk supply was responsible for about 20 per cent. of cases, and by taking the same pains in correcting as with water, we have brought down the incidence.

DR. B. FRANKLIN ROYER, Philadelphia: Any one of us who has had occasion to watch the incidence of communicable

diseases as they occur in many localities in the same state for a period of years cannot help but say a word of encouragement of the excellent graphic methods shown by Dr. Griswold in his charts. I had occasion a year ago to spend the greater part of a holiday with Dr. Griswold in his University laboratory in Iowa City and saw the high type of work that he and his associates were doing and teaching. Those of us who have been in the larger state health game and have been privileged from that standpoint to see the errors that are being made through lack of use of graphic methods in the smaller municipalities know how readily it is possible with a well organized state staff, granted morbidity reporting is fairly complete, to sit in the central health office and pick up two thirds of the health workers on disease incidence before they are really aware of its significance. In literally hundreds of instances, with two trained girls at my elbow, one watching the township disease files and the other the municipality files, where we had tabulated and charted the records as reports came to us each week and for the fraction of a week, at the end of a month these clerks would whisper the essential word in my ear. In other words, they handed me the figures. A pencil graph showed trends, and then the long distance telephone would be brought into action when we would ask for an explanation of this excess incidence in a field often a hundred miles away. It was usually a surprise to the local health officer that we in the central state office knew so much more about his local condition than he knew in the field. It put the local health official on his toes, however, to watch his work in the future. The centralized study of vital statistics and the portraying of state epidemiologic data had a tremendous influence for good on all of the subordinate health workers throughout the state.

EXPERIMENTAL HIGH INTESTINAL OBSTRUCTION

RELIEF BY IRRIGATION AND CONTROL OF ALKALOSIS: PRELIMINARY REPORT *

MILTON M. PORTIS, M.D.
AND
BERNARD PORTIS, M.D.
CHICAGO

Acute duodenal obstruction is now assuming great importance because of the performance of more radical gastric surgery and of the newer conceptions of alkalosis and gastric tetany. We have attempted in this experimental study to produce an artificial duodenal obstruction and to remove the toxic substance by irrigation and to determine the relative importance of the involved factors.

The literature contains numerous reports regarding high intestinal obstruction and the effects caused by closed loops of intestine at different levels. Neuman [1] first described the usual syndrome in 1861, and Kussmaul [2] later confirmed his observations. Many have observed a profound and even rapidly fatal intoxication caused by substances formed in an obstructed bowel. The higher the obstruction, the more rapid and toxic the picture. Obstructions in the duodenum are rapidly fatal.

All are agreed that the severe reaction following high intestinal obstruction is due to some highly toxic substance. The origin of this product is still much in doubt. Whipple [3] and his co-workers consider the poison to be a primary proteose formed by perverted activity of the intestinal mucosa. Dragstedt [4] and his associates, however, attach great importance to the action of bacteria, both proteolytic and putrefactive. Draper [5] believes that there is a perverted activity of the mucosa [illegible]. He found that excision of a loop obstructed thirty-six hours or sometimes less fails to save the animal's life. This, he thought, might be due to an impairment of the function of the liver, for the camphor-glycuronic pairing power decreases in the liver of dogs with an obstructed duodenum. This may also indicate a decreased power to detoxicate duodenal contents.

Davis and Stone [6] have determined that loop washings can become toxic outside the body and produce symptoms like the contents of closed loops when injected into animals. They therefore conclude that a perverted activity of the mucosa is not present. Histamin has been isolated by some workers, and they have considered this of importance in the production of the symptoms. Hausler and Foster [7] stated that in high intestinal obstruction a shock complex is more of a factor than a toxic reaction. It seems that the toxic products formed in high intestinal obstruction are probably due to bacteria as well as to an abnormal function of the duodenal mucosa. Injury to the mucous membrane may facilitate the absorption of the poison.

Many have studied the chemical changes in the blood in high intestinal obstruction, both in patients and in animals. Haden and Orr [8] observed in a number of patients following gastro-enterostomy that more or less serious symptoms arose, which they thought were probably due to absorption of a poison formed by stasis in the duodenum. Under such conditions there is a marked rise of nonprotein nitrogen bodies in the blood, with marked increase in the nitrogen excretion from the kidney. This increase in the blood is roughly proportional to the severity of the intoxication. There is a low chlorid content in the blood, and there may be a suppression in the urine. Sodium is thus left free and unites with the carbonates to give sodium carbonate and eventually an alkalosis. These authors consider the disturbance in the chlorid metabolism to be analogous to the reaction found in pneumonia, in which case there is a proteose intoxication. Whipple noted similar changes with an increase from three to ten times the normal of the nonprotein nitrogen bodies in the blood, according to the severity of the condition. Saito [9] observed that the blood urea nitrogen varied from less than 30 per cent. to more than 90 per cent. of the total nonprotein nitrogen. He likewise noted a hyperglycemia in high intestinal obstruction. Dixon [10] believes that the marked depression of the chlorids in the blood plasma may be due to a union of the toxins with the chlorids. As yet, no satisfactory explanation has been given for the phenomena observed.

* From the Hull Physiologic Laboratory, University of Chicago.

1. Neuman, quoted by Kussmaul (Footnote 2).
2. Kussmaul: Deutsch. Arch. f. klin. Med. **6**: 455, 1869.
3. Whipple, G. H.: Proteose Intoxication, J. A. M. A. **67**: 15 (July 1) 1916. Cooke, J. V.; Rodenbaugh, F. H., and Whipple, G. H.: J. Exper. Med. **23**: 717 (June) 1916. Whipple, G. H.: ibid. **23**: 123 (Jan.) 1916; **25**: 479 (March) 1917.
4. Dragstedt, L. R., and Dragstedt, C. A.: J. Exper. Med. **25**: 439 (March) 1917; Dragstedt, C. A., and Dragstedt, L. R.: Acute Dilatation of the Stomach, J. A. M. A. **79**: 612 (Aug. 19) 1922; Am. J. Physiol. **46**: 584 (Aug.) 1918.
5. Draper, J. W.: Intestinal Obstruction, J. A. M. A. **67**: 1080 (Oct. 7) 1916.
6. Davis, D. M., and Stone, H. B.: J. Exper. Med. **26**: 687 (Nov.) 1917.
7. Hausler, R. W., and Foster, W. C.: Studies of Acute Intestinal Obstruction: Different Types of Obstruction Produced Under Local Anesthesia, Arch. Int. Med. **34**: 97 (July) 1924; Acute Strangulation, ibid. **34**: 697 (Nov.) 1924.
8. Haden, L. R., and Orr, T. G.: Bull. Johns Hopkins Hosp. **34**: 26 (Jan.) 1923.
9. Saito, S.: Mitt. a. d. med. Fak. d. k. Univ. zu Tokyo **31**: 117, 1924.
10. Dixon, C. F.: Value of Sodium Chlorid in Treatment of Duodenal Intoxication, J. A. M. A. **82**: 1498 (May 10) 1924.

High intestinal obstruction is usually accompanied by a marked increase in the carbon dioxid combining power. This tendency to alkalosis may explain the gastric tetany observed in the experimental animals and is probably a real factor in a fatal termination. A more complete review of the literature will be included in a later report.

EXPERIMENTS

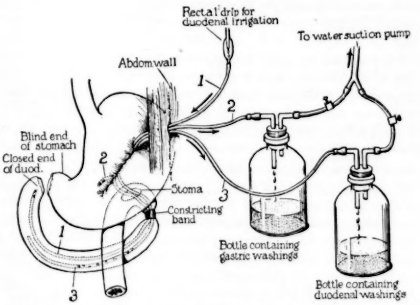
The operative and irrigation procedures were performed on eighteen dogs. A small tube passed through the mouth into the stomach was placed during the operation into the proximal loop through the gastro-enterostomy opening. It was pushed up to the closed end of the duodenum. Through this tube a constant drainage and washing of the duodenal loop was carried out, and the tube left in situ as long as desired. We found difficulty in keeping the tube in the dog's mouth, even bringing it out at an angle of the jaw, and hence, for the purpose of this experiment, brought the upper end of the tube out through a gastric fistula.

In the later work we introduced two tubes into the proximal loop, because a single tube did not suffice to produce an efficient method of irrigation. One tube was passed up to the closed end of the proximal duodenal loop and the other kept in the same loop near the gastro-enterostomy opening. Physiologic sodium chlorid solution or Ringer's solution was introduced through the longer tube at a slow constant rate from an elevated bottle. The fluid was withdrawn by means of the shorter tube by siphonage. Later, gentle suction from a water pump was found to be more positive. The dog was supported in a frame provided with a head rest. The animal was thus made comfortable. The irrigating fluid was kept at body temperature, and external heat was applied to the dog. A third tube was left in the stomach itself in order to wash out any excessive gastric secretion, and also for the early introduction of fluids and later food into the stomach.

This type of irrigation was tried in three series of dogs. First, with an ordinary gastro-enterostomy; second, with a gastro-enterostomy and a pyloric occlusion, and third and most important, in a series of dogs prepared according to the second method but with a rubber band placed on the proximal loop near the gastro-enterostomy opening. In this manner a positive obstruction was produced with the duodenum forming a closed loop.

We were confronted with many technical difficulties in our early experiments, both in the most adequate method of producing a temporary obstruction and in devising an efficient type of continuous irrigation. In our earlier work in the control animals without irrigation, death occurred in the first twenty-four hours. The contents of the obstructed proximal loop were highly toxic, as from 0.5 to 1 c.c. of the Berkefeld filtrate was sufficient to kill a normal guinea-pig in from twelve to twenty-four hours after intraperitoneal injection. The bacteriologic cultures showed only the constant presence of *B. coli* and some gram-positive cocci. All our animals were examined post mortem, so that all elements of the experiment were considered. Carbon dioxid determinations by the Van Slyke method were made on the last few dogs. The other components of the blood and the urinary chlorids were not studied in this first series of animals. We will describe one of the last operations in great detail, as it illustrates the essential factors concerned with duodenal obstruction.

The operative procedures on Dog 17, indicated in the accompanying sketch, were as follows: A midline incision from the xiphoid process to the umbilicus gave exposure to the stomach and duodenum. The stomach was divided at the pyloric ring. The opened duodenum and stomach were closed with linen sutures, and the blind ends inverted with a continuous Lembert suture. Three pieces of rubber tubing, measuring 3 mm. in diameter and about 50 cm. in length, were fastened together with thread. One of these pieces, which was to be used for stomach drainage, was cut off to the length of 30 cm. Several perforations were made in this gastrostomy tube in the distal 6 cm. The tubes that were to be used for duodenal irrigation were so perforated that the fluid was required to course through the entire duodenum before the tube connected with the suction apparatus could withdraw the irrigating solution. These three tubes, one for the stomach and the other two for duodenal irrigation, were embedded in the stomach near the lesser curvature and cardiac end by means of a Witzel gastrostomy. After a trough had been made by this procedure, the three tubes were introduced into the stomach through a small opening, and this opening was closed. A posterior antecolic



Operative procedures, apparatus and method for irrigation of the closed loop, and the location of the rubber band producing temporary obstruction at the duodenojejunal flexure.

gastro-enterostomy was then performed by the following method: The jejunum, about 10 cm. from the duodenojejunal flexure, was approximated to the stomach on its posterior wall with a continuous serosal suture. Openings were made in the stomach and jejunum, and a posterior layer of sutures were inserted, approximating the jejunal and gastric walls. At this stage the two rubber tubes that were to be used for duodenal irrigation were withdrawn from the stomach through the gastro-enterostomy stoma and inserted into the proximal loop toward the duodenum, so that one reached up to the blind end of the duodenal stump while the other was near the gastro-enterostomy opening. After this the anterior wall of the gastro-entero-anastomosis was sutured with two layers of continuous silk. Thin rubber, about 2 cm. in width and 6 cm. in length, was pushed through the mesentery of the jejunum proximal to the gastro-enterostomy, and the two ends were sutured together so as to produce an occlusion of the lumen without seriously interfering with the blood supply of this part of the intestine. A stab wound was made to the left of the median line, and the portion of the stomach including the gastrostomy was pulled through this opening and fastened very

carefully to the peritoneum. The abdomen was then closed and the dog put into a special frame, which held him erect. Irrigation by means of apparatus shown in the sketch was then started by the use of a rectal drip, warm physiologic sodium chlorid solution being used. This drip was attached to one of the tubes, which had its perforations at its terminal end and permitted the fluid to escape only at the most distant portions of the duodenum. Suction was applied to the other duodenal tube, which had its perforations a short distance beyond the occlusion.

This irrigation was carried on continuously for twenty-four hours and also for a short time after the occlusion had been removed. The gastrostomy tube was used as a method for washing and irrigating the stomach when necessary, and also for supplying fluids and drugs, which will be described later. At the end of twenty-four hours, a linear incision was made under local anesthesia to the left of the midline. The rubber band occluding the jejunum was removed and the abdomen closed. The animal received further duodenal irrigation for a period of four hours and was then permitted to rest.

The carbon dioxid combining power of the blood was determined at several intervals during the twenty-four hour period of occlusion and subsequently. The accompanying table indicates the amount of irrigation and the reaction of the dog during the first thirty-six hours.

As noted in the table, the duodenal loop was irrigated with 8,000 c.c. of physiologic sodium chlorid solution, and 7,930 c.c. of solution was returned. By this method we were able to produce a very efficient irrigation, which undoubtedly removed the toxic products formed in the lumen of the obstructed duodenum. The dog showed muscular twitchings shortly after the operation. These became exaggerated, and finally, twenty-five hours after the operation, the dog developed severe generalized convulsions and did not respond to external stimuli. Even the corneal reflex was absent. The carbon dioxid combining power at this time showed 100, or almost twice normal.

After the administration of 120 c.c. of 0.3 per cent. hydrochloric acid, the dog underwent a remarkable change, first regaining consciousness, later reacting to external stimuli, and finally seeming quite well. A second carbon dioxid combining power taken one-half hour after the administration of acid showed it to be 73, or a decrease of one fourth. The duodenum was then irrigated during the next seven hours with 2,100 c.c. of salt solution, but only 1,700 c.c. was returned. Evidently the 400 c.c. had passed on by way of the now free duodenal loop. The remainder of the day 0.3 per cent. hydrochloric acid was given, as was indicated, and the carbon dioxid combining power was reduced to 66 and a few hours later it was 56. The general condition of the dog constantly improved, and after forty-eight hours the dog was free from twitchings and tetany, and walked about and acted normally. It has remained in good condition since then and has shown no further tendency to alkalosis.

Results of Irrigation in High Intestinal Obstruction

Time	Injected through Duodenal Tube	Withdrawn by Means of Duodenal Tube	Given through Gastrostomy Tube	Rectal Feedings	Carbon Dioxid Combining Power	Comment
5/26/25, 9:30 p.m. to 6 a.m..	2,400 c.c. 0.9% NaCl	2,180 c.c.	¾ gm. potassium bromid	.....	...	Dog shows mild muscular twitching
5/27/25, 6 a.m. to 12 noon...	3,000 c.c.	3,080 c.c.	.....	90 c.c. 5% glucose	...	Muscular twitching more marked
12 to 6 p.m.....	2,300 c.c.	2,300 c.c.	.....	90 c.c. 5% glucose	...	Muscular twitching almost continuous
6 to 7 p.m.....	400 c.c.	450 c.c.	.....	20 c.c. 5% glucose	...	Obstruction removed under local anesthesia and irrigation discontinued for 3 hours
7 to 10 p.m.....	.....	.....	.....	.....	...	No irrigation
10:25 p.m.....	.....	.....	.....	.....	100	Dog in convulsions; slight response to external stimuli; corneal reflex absent
10:25 to 10:30.....	.....	.....	120 c.c. 0.3% hydrochloric acid	No further rectal feedings	...	Dog revived very shortly afterward and seemed to improve rapidly
11 p.m.....	.....	.....	.....	.....	73	Very much better
5/28/25, 12 to 2:30 a.m.....	1,300 c.c.	1,060 c.c.	.....	.....	...	Dog much better; twitching still present
2:30 to 5 a.m.....	.....	.....	.....	.....	...	Dog sleeping
5 a.m. to 7 a.m.....	900 c.c.	640 c.c.	.....	.....	...	Twitching less; no further irrigation; vomited once
9:30.....	.....	.....	20 c.c. 0.3% hydrochloric acid			
10:25.....	.....	.....	20 c.c. 0.3% hydrochloric acid			
10:45.....	.....	.....	20 c.c. 0.3% hydrochloric acid	.....	66	Dog quieter; few muscular twitchings
From 11:15 to 2:15.	.....	.....	50 c.c. 0.3% hydrochloric acid per hour			
2:15.....	.....	.....	.....	.....	56	
2:45.....	.....	.....	40 c.c. 0.3% hydrochloric acid	.....	...	No further evidence of tetany

Milk and glucose given every half hour by gastrostomy; small quantities of water given by mouth.

After the dog was entirely recovered from the operation, it was given a diet of milk and glucose, and was allowed to drink water. It has remained in good health since the operation.

CONCLUSIONS

1. Experimental duodenal obstruction is associated with alkalosis, tetany and death, as noted by previous workers.

2. Continuous adequate and thorough drainage of obstructed intestinal loops can best be carried out by the use of two tubes.

3. Such irrigation of the obstructed duodenojejunal loop has a favorable action, and when accompanied by control of alkalosis relieves the symptoms and prevents death.

Duty of County Health Department.—The primary duty of the county health department is to interest and educate the people of the county in matters pertaining to the cause and prevention of communicable diseases and the possibilities for community health promotion.—Parran, Thomas, Jr.: *Pub. Health Rep.* **40**:987 (May 15) 1925.

THE USE OF ALCOHOL IN MEDICAL PRACTICE *

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BOSTON

It is an old saying that alcohol is a highly inflammable substance whether you apply a match or a word to it. Nevertheless, from time to time some of us with more courage than caution may well venture to express our views concerning the place of alcohol in therapeutics. Certainly it is to be expected that there will be some differences of opinion. Complete agreement means cessation of inquiry, and mental and scientific stagnation.

The difficulties with regard to a reasonable evaluation of the therapeutic place of alcohol are obvious. There are few of us, indeed, that did not have prejudices with regard to alcohol before we entered the therapeutic field. Then, too, the statistical data with regard to alcohol, whether clinical, experimental, sociological or economic, have been subjected to partisan and emotional interpretation.

In this brief paper there will be no discussion of the sociological or economic aspects. Furthermore, there will be no attempt to transfer the results of valuable laboratory experiments with alcohol on animals to human beings. However fundamentally important much of that work is, the process of transfer often gives an unintentional twist. It seems to me that there are adequate clinical data on therapeutic effects of alcohol. I shall furthermore limit the scope of this paper to my own personal observation and personal experiences in the use of alcohol. It is certain that my own observations will not precisely coincide with those of other internists, and it is certain also that my interpretations will be somewhat different from those of other men. Inevitably some of the opinions will seem didactic; inevitably some opinions will seem to be based on insufficient data.

I use the term alcohol as the presumably potent pharmacologic agent that occurs as ethyl alcohol in varying percentages in the usual wines and liquors. I assume that we are dealing with relatively pure ethyl alcohol. Unquestionably, the form of alcohol has a distinct effect on the organs of taste and smell, and the form and dilution have a definite effect on the ease of toleration by the stomach. While these are important in medical practice, I purposely exclude them from the present discussion.

Historically, alcohol has had its greatest vogue in therapeutics in the treatment of acute infections. The old accounts of the days of vigorous therapeutics which preceded the present day of relative therapeutic nihilism make weird reading nowadays. In the good old days of bleeding and purging, the amount of alcohol prescribed was indeed colossal. The older clinicians of today still maintain that the moderate use of alcohol is perhaps the only therapeutic agent to be saved out of the chaos of the excessive therapeutics of acute infections.

With the better understanding of the processes of immunity, it is hardly seriously claimed nowadays that alcohol has any direct antagonistic action on pathogenic micro-organisms or their products. In favor of the continuation of the use of alcohol in acute infections are urged certain clinical observations: (1) the observation that in infections a large amount of alcohol may be consumed without obvious alcoholic intoxication; (2) the use of alcohol as a food; (3) the stimulating effect of alcohol; (4) the general beneficial effect of alcohol. The observation that in acute infections alcohol is often tolerated in large amounts without obvious intoxication needs very little comment. This may or may not be related to the use of alcohol as a food. In any event, the absence of alcoholic intoxication after the use of alcohol does not seem to be a direct argument for the use of alcohol.

It is well known that under special circumstances alcohol can be used as a food. Careful clinical studies, particularly careful metabolism studies, indicate that the total amount of alcohol that can be utilized as a food is very small, and that the utilization of alcohol as a food demands rather special conditions. Although the administration of an adequate number of calories is desirable at all times, nevertheless there is ordinarily very little urgency concerning the calories in the acute infections. Furthermore, the few additional calories that alcohol can supply seem relatively unimportant. Clinical experience points clearly to the urgency of providing an adequate fluid intake in acute infections. Fluids must always be available for the tissues, particularly in the acute infections. There is a possibility that occasionally in desperate cases of acute infections the ingestion of alcohol may facilitate the retention of fluids and thus combat an anhydremia. On this point at the present time there are inadequate data to form a definite opinion. My own views are that alcohol is of no real clinical value as a food in acute infections, although I still withhold an opinion in regard to the possible beneficial rôle of alcohol in assisting in the retention of the needed fluids.

Clinical, laboratory and experimental observations fail to disclose the value of alcohol as a stimulant, as measured by any precise test or by any method capable of expressing actual measurement. I hasten to add that a stimulating effect may not necessarily be expressed in terms of blood pressure readings, pulse rate and the like. However, I myself have not been able to discover clinically any stimulating effect, in the particular or general sense of stimulation, in acute infections from the use of alcohol.

The possible general beneficial effects of alcohol in acute infections is confessedly hard to determine. It is important, if it can be done, to substitute precise for general terms. Of course, in the present state of medicine, it sometimes happens that the patient feels better and is clinically better, although there may be no alteration in any available record. Nevertheless, on analysis I believe that it is possible to express in reasonably precise terms wherein alcohol has a beneficial effect not alone in the acute infections but also in general therapeutics.

The single beneficial effect of alcohol in acute infections is in my experience psychologic rather than somatic, and is best illustrated by enlarging the scope of the discussion. The excuse for the prominence of the discussion of the effect of alcohol in the acute infections is that medical tradition has given alcohol such a conspicuous place in the treatment of acute infections. I believe that there is a field of usefulness of alcohol which is amply substantiated by clinical experience and, as it happens, amply substantiated pharmacologically. The usual immediate effect of alcohol in human beings is the creation of the state of artificial euphoria. Some of us have experienced this sensation ourselves; all of us as physicians and as citizens have frequently witnessed this

* Read before the Section on Pharmacology and Therapeutics at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

state. We do not need the abundant existent data to prove the existence of this phenomenon. Our concern at this time, however, is with persons who are under our medical care because they are sick. The issue, plainly stated, is this: Can alcoholic euphoria be utilized in the practice of medicine just as the pharmacologic action of any drug can be used? Furthermore, do the immediate benefits outweigh the possible deletorious effects, both immediate and remote? I believe that alcohol, properly administered in selected cases in which a mild artificial euphoria is desirable, is a valuable therapeutic procedure in making the patient more comfortable. I regard the exhibition of alcohol as one of the milder refinements of medical care of certain types of patients. It helps them over a difficult period. An elderly patient, for example, is convalescent from a mild upper respiratory infection, whether we call it a cold, the grip, influenza, bronchitis or bronchial pneumonia. In the convalescence, the weight of years hangs heavily on the patient. He is conscious of many mild functional disturbances; he is depressed and miserable in mind and body; he is without appetite, and has a sense of prostration and weakness. To be sure, much can be done for this patient by careful nursing, tonics and the various so-called volatile stimulants. Nevertheless, the exhibition of alcohol in some agreeable form eases the miseries of his body, encourages him to eat, and helps in the establishment of recovery. I have grave doubts as to the actual large benefit of alcohol or of any of the other warmly recommended remedies. I feel certain that in most cases the patient is better off without alcohol. However, there is the very occasional case in which, in the convalescence from acute infections, alcohol certainly seems to be of some slight benefit as indicated.

Not only in the convalescence from infections, but also during the acute stage of some infections does alcohol at times seem of value. In my experience, its value is always in the creation of the state of euphoria. It is my opinion that the beneficial effects of alcohol seen in the treatment of mild infections, as a cold, just as in the convalescent period, are due to this pharmacologic action of alcohol. As an upper respiratory infection is self limited, one may well expect enthusiastic testimonials from any more or less agreeable method of treatment. Most physicians have their own special form of treatment that they recommend for the treatment of colds, and alcohol is simply one of a group.

There are occasional cases in the early stage of pulmonary tuberculosis when the little fever, the distress of body and the consciousness of this dread malady make life appear drab, and the judicious administration of alcohol in small amounts seems to alter the gloomy outlook on life and to make endurable the rigors of the necessary regimen.

The occasional cardiac patient with a large heart that no longer responds satisfactorily to digitalis and that hovers between compensation and decompensation with a variable amount of precordial distress and with a variable amount of dyspnea, often finds more comfort from alcohol judiciously given in moderate doses than from opiates, which are better reserved for a future period.

In the sometimes inevitable discomforts of old age, as well as in the more sharply definite ailments of arteriosclerosis, alcohol occupies a high place in my regard. Of course, alcohol does not in the slightest remedy the underlying condition. Its use is entirely directed against the symptoms of the sensation of ill being. It may even be true that alcohol even in small doses may somewhat accelerate a progressive condition. However, if alcohol will enable the patient to eat more and to sleep better, not to mention to give freedom from bodily miseries, it would seem likely that the progressing process in such cases is generally not accelerated by the use of alcohol. Illustrative cases might be multiplied; alone, no single illustrative case would be in the slightest convincing. Taken together, the result has been to convince me of the limited value of alcohol to one particular purpose; namely, the creation of euphoria.

We have better drugs for anesthesia or the full state of intoxication that large doses of alcohol may bring. However, it sometimes happens that definite moderate intoxication with alcohol seems to be of some therapeutic value. I refer particularly to the type of case illustrated by a relatively feeble old man who had undergone prostectomy in a two stage operation. He finally drifted into a stage of physical inertia, in which he refused to take nourishment or talk, and took no interest in life. Despite the usual resources on the part of the surgeon and internist, it was evident that he was going to die unless something changed in the immediate future. The liberal administration of alcohol in such a case, as contrasted with the moderate use of alcohol in the earlier cases, is occasionally accompanied by a somewhat sudden readjustment and recovery.

I have attempted to point out some of the indications for the use of alcohol. It may be argued that even if there are benefits, the possible detriments far outweigh the benefits. In the first place, I believe that it cannot be too strongly emphasized that alcohol and work are completely incompatible. Generally speaking, I believe that physicians are not justified in prescribing alcohol for patients who are actually doing full work.

Again, it may be argued that alcohol is notoriously a habit-forming drug. So are many other drugs. One must assume some intelligent discretion on the part of the physicians. Furthermore, if the general contraindication of work is accepted, I believe that this argument against alcohol may be disregarded.

Political fashions and even laws do not alter scientific and clinical facts with regard to the use of alcohol in medical practice. Of course, as law-abiding citizens we physicians must conform to the law. The law now provides the machinery for the prescription of alcohol. The physician therefore will or will not prescribe alcohol in accordance with his interpretation of the purely medical indications for its use.

SUMMARY

I have attempted in a feeble way to express my own views with regard to the clinical use of alcohol. In my opinion, alcohol is of no benefit as a stimulant in the acute infections. It is possible that alcohol may have some indirect beneficial effect on the metabolism, particularly with regard to fluids; but that does not seem to have been demonstrated clinically as yet. It is only in very exceptional cases that alcohol has any direct value as a food. Alcohol is beneficial in a wide variety of conditions on account of its pharmacologic effect in the production of euphoria. Its benefit is probably never directly life saving. In order to produce this effect, small doses of alcohol are probably sufficient. Alcohol should not be employed as routine and should be employed only in individual cases in which the indications for its use are clear. When the purpose of the administration of the drug is kept in mind, there would be no more objection to the use of alcohol than to the use of opium or its derivatives. It is a habit-forming drug, like opium and its derivatives, but the difficulties

in the formation of habit are easily avoided when the treatment is individualized and the drug is administered on clear indications. There seems to be some evidence that in occasional cases the administration of alcohol to the state of mild but obvious intoxication may be beneficial. However, the ordinary indication for the use of alcohol is the creation of mild euphoria.

270 Commonwealth Avenue.

ABSTRACT OF DISCUSSION

DR. ALBERT E. ROUSSEL, Philadelphia: Doubtless there always will be variances of opinion with regard to the use of alcohol in acute disease. After long experience in hospitals and private work, I regard alcohol as useful in certain types of infection and in particular cases. In convalescence from acute diseases and in many chronic diseases, I consider the use of alcohol of great value. The way it is given to the patient is important. In one discussion it was recommended that we use alcohol undiluted. I will ask any of you, even in good health, who have tasted alcohol to bear me out as to how well it can be borne by sensitive stomachs. The French, with their wines are prone to know more about the different classes of wines than we are, and certain it is that when strychnin and bitter tonics are often without immediate result in the production of an appetite and in improvement of digestion, a good Burgundy wine will effect the results we are seeking to obtain. I approve of this in hospital and other work in connection with relative blood and hemoglobin counts, presumably because the proper wine not only produced the feeling that is part and parcel of the process, but it produced an appetite. Nobody who is unable to take the proper food is going to increase red blood corpuscles. I believe that alcohol is of use in acute infections and of greater use in convalescence from acute infections and chronic diseases.

DR. ROGER I. LEE, Boston: It is well known that it is possible to change a positive Wassermann reaction to a negative one, provided the individual is sufficiently alcoholized. In an arbitrary fashion, I simply included all of these suggestions under the general caption that I myself was not familiar with the clinical utilization of alcohol for any of these purposes. I am very glad that Dr. Roussel brought out the point which I could not bring out in my paper, which I merely mentioned; namely, that the form of alcohol is important. As for the rest of Dr. Roussel's discussion, I dare say that he and I may be in agreement or it is possible that it is a case of which I warned in my paper as to where clinicians must agree to disagree.

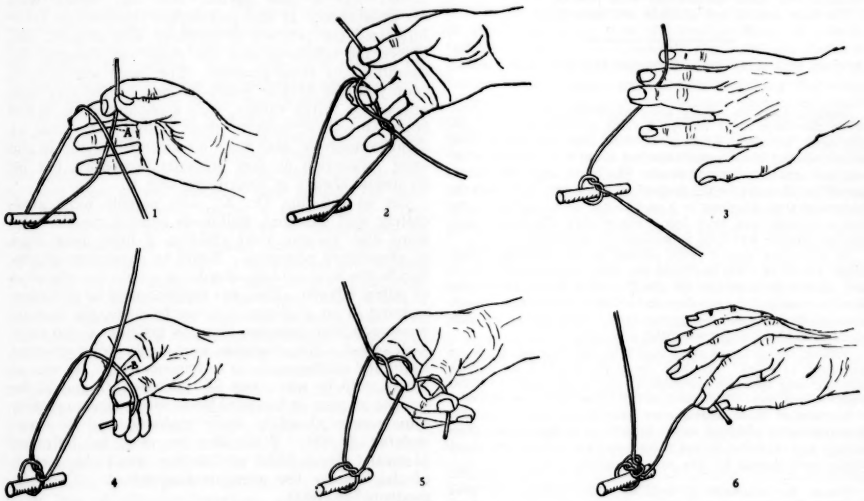
Clinical Notes, Suggestions, and New Instruments

METHOD OF TYING A SQUARE KNOT

F. G. MEYNEN, M.D., JAMAICA, N. Y.

The method presented here of tying a square knot will be found to excel all ordinary methods and most, if not all, of the "trick" ones for the following reasons:

1. It is rapid.
2. It cannot fail to tie "square."
3. Only one hand (the right) is directly used.



Steps in tying the knot.

4. At no time is it necessary to drop either end of the suture—each maneuver leading naturally into the succeeding one without rearranging the grasp.
5. It is adaptable to all purposes and positions.
6. It is simple and easy when the knack is acquired.

It is essential to remember that the long end (if there is a choice) should always be grasped by the left hand. In the drawings, for the sake of simplicity, the long end is left free without indicating the left hand.

Assuming that the long end comes out of the wound on the far side from the surgeon about to tie the knot (as is the case, for example, when the first knot in a continuous suture is tied by an assistant for the operator), it is grasped by the left hand, while the short end is grasped about 1 inch from the end between the thumb and index finger of the right hand with the palm down. The palm is immediately turned upward with the suture lying across the fingers and the longer end brought into the position shown in Figure 1. The middle finger is then hooked under the portion of the suture marked *A*, as in

Figure 2; this is drawn through the loop by grasping it between the middle and ring fingers, and first single knot drawn tight as in Figure 3. The same firm grasp being kept with the middle and ring fingers, the palm is turned somewhat upward, the thumb and first finger being placed under the suture and the long end in the position shown in Figure 4. The tip of the index finger is then hooked under the portion marked *B*, as in Figure 5, drawing it through the loop and grasping it between the thumb and index finger as soon as it is through, and the knot is drawn tight and completed as in Figure 6. Should a third knot be desired, the hand will be found in a position ready to repeat the first maneuver from Figures 1 to 3.

Should the surgeon be desirous of tying his own suture (in which case the short end will come out on the far side of the wound and the long end on the near), he has only to begin with the maneuvers depicted in Figures 3 to 6 and end with Figures 1 to 3.

This method is particularly suitable and rapid for ligating vessels with a long ligature wound around the fingers of the left hand. It must be remembered, however, to begin with Figure 1 when the long end comes up on the far side of the clamp, and with Figures 3 to 6 and then Figures 1 to 3 when the long end comes up on the near side of the clamp. This decision will come instinctively with practice.

The knot can be tied easily in two seconds.

BLOOD SUGAR IN RELATION TO INSULIN REACTIONS*

GENEVIEVE STEARNS, M.S., IOWA CITY

Diabetic children usually show symptoms of insulin shock when the blood sugar reaches a value of from 0.050 to 0.040 per cent. Recently, however, we have observed two children whose venous blood sugars reached much lower values without any apparent signs of shock. The blood sugar was determined in all cases by the method of Folin and Wu,[1] with the exception that dilutions to 6 or 12.5 c.c. were used when the sugar content was very low. Pfanstiehl's chemically pure special glucose was used in making the standards.

M. B., a girl, aged 4 years, showed on two occasions blood sugar values of 0.036 and 0.042 per cent., respectively, without any noticeable evidence of shock. With typical beginning insulin reaction—i. e., the child fully conscious, though drowsy, flushed, and perspiring freely, and unable to walk alone—the blood sugar was 0.025 per cent.

Similar observations were noted in the case of R. K., a girl aged 11 years. On three occasions in which drowsiness was the only apparent symptom of insulin reaction, the blood sugar values were 0.030, 0.033 and 0.034 per cent., respectively.

In view of these findings, we have found that occasional determinations of blood sugar from three to four hours after insulin are of value, as the child may have a very low blood sugar, even though he may appear normal.

* From the Department of Pediatrics, State University of Iowa College of Medicine.

1. Folin, O., and Wu, H.: J. Biol. Chem. **38**: 81 (May) 1919.

Effects of Vaccination at University of California.—There has been no case of smallpox among the student body of the University of California at Berkeley since 1907, when the regents adopted the rule that all entrants must possess satisfactory evidence of immunity to smallpox before they can be admitted. In the State of California for the year ending Dec. 31, 1924, there were reported 9,424 cases of smallpox. As this makes a case rate of 2.41 per thousand population, our pro rata expectation of smallpox cases among the student population, calculated on 10,000 individuals, would be twenty-four cases for that year—if vaccination were not enforced. There were three cases of smallpox among unvaccinated employees, two of whom were janitors, and one was a stenographer. Students who came in contact with these individuals and with others during an epidemic, in our city in 1913, when five afflicted persons out of thirteen cases died, were absolutely protected. It is therefore needless to offer any arguments save the one that compulsory vaccination should be required of all entrants on matriculation.—Legge, R. T.: *Pub. Health Rep.* **40**:1037 (May 22) 1925.

Special Article

THE OLD TIME COUNTRY DOCTOR

In the innumerable descriptions of and references to the country doctor of earlier days, seldom is one found that indicates an accurate conception of him. On the one hand, he is idealized by those who knew his virtues and loved him and described as a man whose superhuman benevolence was equaled only by his subhuman practicality; on the other, he is given little credit for more than good intentions by some of those who did not know him and cannot see how he could have been of much use. It has been my experience to know intimately one successful country doctor, and a sketch of such a man, as uncolored by romance as possible, would seem to be historically worth while.

The period of his practice was from 1861 to 1889. The time was in years not so long ago, but the period was a past period, one that ended with his generation. It was just before bacteriology revolutionized the practice of medicine and surgery, and before the telephone and the motor car changed the conditions of rural practice. The place was a rural county in the Middle South—a land of red clay hills seamed by fertile valleys, with a population of native born Americans, most of them rather poor, some of them prosperous, with their intelligence varying in the same proportion as their material prosperity, but by no means always in accordance with it.

Let us call him Dr. X. His parents were moderately well educated, well-to-do country people, who were able to give their children a little more than an elementary education. X had an elementary education in the local private schools; it was before the days of public schools. This was supplemented by a further training in an academy in a nearby town, the sort of institution that took the place in his day of the later high school. His education went to the point of some Latin and mathematics up to trigonometry. He was at school until he was about 17. Between 17 and 22 he worked at more or less hard labor with a view to getting some money ahead to study medicine, and he accumulated $1,500. With this he went to Jefferson Medical College, which at that time was to his section of the country the great medical school. There he graduated in 1860.

After his graduation, he began the practice of medicine in the county seat of his county. He had had no hospital training, but he evidently had acquired somewhere a considerable amount of clinical training, for without any later training of this sort he handled his patients *secundum artem* for his day, and did the surgery of the times with assurance and according to established method. Either Jefferson then gave a considerable amount of practical training to its students, or he had gotten this training in the art of medicine from his preceptors, one of them an older brother, another a rather famous doctor in his county. He spent a year or two in establishing a practice and was soon busy, doing all he possibly could do. So he remained for the rest of his life.

My memory of him begins about 1875, and I remember no important changes in the manner of his practice, or of his life, after that time. His work consisted of everything in medicine. He treated every human ailment that affected his people, and every accident. By

the time that my memory of him becomes vivid, he had become the consultant for a large district. He did not accept his responsibilities lightly. Rather, he was distinctly conscious of the responsibilities he accepted, but he did not hesitate to take all sorts of professional responsibility. When he got a puzzling case or a case that was distinctly a specialist's case, such as disease of the eye, in some one who could pay, he sent him off to the city for service or had consultation at home. But he did not seek consultations often, and for the most part he accepted the complete responsibility himself. Of course, that meant, in a large general practice, that he was carrying heavy responsibilities all the time.

It goes without saying that much of his practice was crude in the light of our present knowledge. But as far as I can appraise the condition of medical knowledge at that time, he intelligently lived up to his situation. In the first place, being himself naturally an extraordinarily clean person, he had his patients kept clean as far as possible, and he tried to keep them comfortable. He saw that the bed linen was clean and that the beds were easy. In prolonged illnesses he watched the backs of his patients, for he held that a bedsore, except with a spinal injury, was inexcusable. He bathed his patients when they had fever. He indulged in no meddlesome manipulations of his patients and no extravagant or heroic therapeutics.

All the knowledge that he had of pathology was that of the gross pathology that he got from his textbooks. But he usually had an intelligent idea of the things that were causing the trouble in his cases, and he tried to meet them as an intelligent man would. He gave his patients medicines, but as a rule not in active doses. He gave quinin vigorously in malaria and he did not hesitate to give opium freely for the relief of pain, if he gave it at all. I have heard him express his views on this point and I have a very vivid illustration of it in my mind. One night, when I was a medical student, I went with him to see a man who was bleeding from a dreadful epithelioma, which filled the orbit. The man was suffering intensely and asked for a dose of morphin. I proposed to give the hypodermic for X, but he said, "No, give him the morphin bottle and let him take his own dose; he knows what he needs." (I think X had never seen the man as a patient before.) The patient took the morphin bottle, poured out into his palm about a teaspoonful of morphin sulphate and, to my amazement that X did not interfere, swallowed it down with some water. When we left the house I voiced my anxiety about the amount of morphin the man had taken and X said, "If he has any morphin he should have enough to stop his pain, and people in his condition who have been taking morphin know how much they need." Nothing came of this teaspoonful of morphin except a grateful sleep. But X was careful not to give morphin to patients indiscriminately, and guarded against the danger of their becoming addicts.

X used the same mixtures for digestive disturbances, the same cough mixtures, the same tonics that we do now; and he used about as we do today such useful remedies as chloral hydrate, bromids, bismuth, and mercury and the iodids in syphilis. But in part his therapeutics amounted to placebos. He used aconite in fevers, in minute doses, belladonna to dry up coughs, and other favorite remedies, but he used them in such small doses that they never produced—with the possible exception of belladonna—any physiologic effect. I do not know whether he realized this or not, but I suspect that he did, because his inclinations all lay in the direction of giving nature a chance and of avoiding overinterference in disease. He did not use cathartics much, and more than once expressed to me the mistake of allowing a habit to become established that made cathartics necessary.

He tried to make a diagnosis in his medical cases, and I think he was fairly successful in this respect. I recall an immense amount of sickness which I saw with him and in which his diagnoses, I think, were sharp and definite. As a good illustration of his diagnostic acumen, I recall a group of cases of Friedreich's ataxia that he had recognized. His physical diagnosis consisted of inspection, palpation, auscultation and percussion. He worked out his lung lesions and his heart lesions, but he did not accurately differentiate the lesions in the heart.

Obstetric work was, of course, a large part of his practice, and I remember that he liked this practice. He got his first inkling of the bacteriology of suppuration in the early eighties, and up to the end of his life he never had more than the crudest ideas of aseptic technic. But he was inherently clean and his obstetric practice had few accidents. I recall only one case of fatal puerperal sepsis in his practice during the years when such an accident would have impressed itself on my memory. He did obstetric manipulations with assurance and success. I have seen him successfully handle a breach presentation of a hydrocephalic child, and after the body was delivered put the forceps on the after-coming head and deliver the child without serious damage to the woman. He looked after torn perineums and took pride in not having many of them.

His favorite practice was surgery. He did all sorts of surgery of the day. I know of two patients with carcinoma of the breast in whom he amputated the breast and who lived for many years. I have assisted him in a successful operation for the reduction of a strangulated inguinal hernia. The surgical feat of his practice as far as I know was the extirpation of the parotid gland for a large malignant tumor, probably a mixed tumor of the parotid. He successfully removed all of this tumor, and the man survived for many years without recurrence. Before the operation, he warned him of the facial palsy that occurred. He had many railroad injuries to treat, most of them crushing injuries, some of them severe burns and, occasionally, a gunshot wound. Of course, awful suppuration occurred in these injuries, but he never hesitated to go after pus and drain it away if possible. My impression is that he handled these cases with excellent judgment and skill. I have seen him take care of a number of extensive burns. He quieted the patients with morphin, cleaned away the pus from the surface and, after petrolatum came in, he dressed the burns with a copious layer of petrolatum under gauze. I have heard him express his dislike for carron oil, because it was mussy and interfered with keeping the surface clean. He did all sorts of amputations, always making long flaps and being particular to furnish a proper protection for the end of the bone. After he learned to use mercuric chlorid solution, he often had an amputation without infection. For the most part, however, his amputations became infected, but he always got at the pus and provided for good drainage, so that the wounds healed in a few weeks with good stumps.

In reducing dislocations, he had one cardinal principle: to produce relaxation of the patient with anesthesia.

That done, he used the classic manipulations and I never saw him fail to reduce a dislocation, although I have been with him on a number of occasions when he was called as a last resort. As far back as my memory goes with him he treated all fractures with plaster-of-Paris dressings. He had two principles that he constantly followed in putting up a fracture: The first was to get as good a reduction as possible, to get the limb in natural position; then—his major principle—was to fix firmly by his plaster dressing the joint above and the joint below the fracture. This done, he felt that the fracture would stay in place, and, so far as his results showed, it did. He treated fractures of the forearm with plaster dressings, and all fractures of the femur in the same way. He had previously used extension splints in fractures of the femur, but gave them up for plaster. With a fractured hip he would put a strong man pulling on the ankle of the patient, keep up the pulling until the muscles had relaxed and the leg was in full extension and, then, while the pulling was kept up until the plaster fixed, he would put on a plaster-of-Paris dressing from the toes nearly up to the navel. He was impressed with the importance of a strong spica around the body. I have reverted in memory to his fracture work more than to any other part of it because I think the results were as good as those that I have seen since.

Of course, all his surgical work was done wherever the injured patient happened to be. There was no hospital. I have given chloroform while he amputated a leg on a railroad station table, with the station agent holding a kerosene lamp. I remember that I have seen him ligate the radial artery under similar conditions for an uncontrollable hemorrhage from a cut in the palm.

All his surgery was done under chloroform, and, according to modern teaching, he was utterly careless in its administration. He would pour it on a towel and let anybody give it; but it was on a flat towel, not a cone, and the patient always got plenty of air. He would give chloroform to pull a tooth or to lance a boil. He never had an accident from chloroform and, as a matter of fact, he never had any fear of an accident until I warned him of the danger. Then I had two or three scares in giving chloroform for him, but he did not have any. After cocain came in he used it freely for minor operations, but with some caution.

His technical equipment was what he had acquired from his medical schools and his preceptors (I have the impression that much of the art he had gotten from his preceptors) and what he had learned by his own efforts. He was a thoughtful man who would grow through his own experience, and he became a man of sound clinical judgment. He was eager to get knowledge of new useful procedures, and for this purpose he utilized those with whom he came in contact, whether consultants or other colleagues who had had later experience. Illustrations of this were seen in the way he appropriated plaster-of-Paris dressings in his fracture work, in the use of cocain and in the efforts at antisepsis, as soon as they were brought to his attention. But he never left home for any formal postgraduate work, nor was he an attendant at medical societies away from his home. The only time that I knew him to go to a medical society meeting was at a time when S. D. Gross was scheduled to give an oration; and he went to see Gross, one of his old teachers. Gross, incidentally, was the only person for whom he had an extravagant admiration. X, however, organized a county medical society which was almost exclusively a clinical society, and this society met for years, until his death, always in his office. He was much interested in it and he would let nothing keep him away from it.

X was in no way cultured in the sophisticated sense; he was not a great reader, but he read both general literature and medical literature with discrimination. When he read medicine, he read for the most part the standard medical texts. I have heard him express his disrespect for most of the magazine literature of medicine that came to his hand and the opinion that doctors would do better to read the same subjects in the textbooks; particularly, that the best thing that they could do was to read up their cases in these books.

I remember once going with him to see a negro woman with a large uterine myoma that had protruded out beyond the vulva for several days. He ligated it and cut it off and the woman got well. As we were driving away he said to me: "The other doctors who have seen the case might just as well have known what to do in the case if they had taken the trouble to read up the subject in the textbooks."

In a quiet way, X was rather punctilious about his medical ethics. He was the almost universal consultant for a wide district and he not only never took advantage of his colleagues in his consultations, but he was technically as well as actually very considerate of them. All I ever learned about the etiquette of the consultation I learned from him. He would not tolerate professional irregularities. He would have nothing to do with an advertising doctor or with an irregular practitioner, and he was impatient with those who were careless of their medical decorum. On the other hand, I have heard him speak rather slightingly of the necessity for the code of ethics and express the opinion that all there was to the code of ethics was for the doctor to act like a gentleman.

He had no office hours and he did not pretend to meet people's convenience. At least, there was no apparent effort on this score. He was not inconsiderate of their convenience, but he apparently expected them to assume that he would get to them when he could and that, if they wanted to see him in the office, they would have to wait and find him there. He was apparently always unhurried even when going to emergencies. I once asked him why he did not hurry more, and he said he did not want to get there all worn out.

His office work was no part of his labor. His laborious work was done in going about to his patients and in taking care of their serious troubles where they lay. He availed himself of every means he could to make his traveling easier; he always had plenty of good horses, for he wanted to drive a fresh horse. A tired horse, he said, made the trip as hard for the driver as for the horse. In his early days he rode horseback a good deal, but from the time that I remember him he drove about in a piano box buggy. This buggy was always in perfect physical order and had always been washed in the morning before he started out. Notwithstanding the buggy, he always carried in a wooden box the classic doctor's saddle bags in which he had his medicines and a small roll of instruments. A patient once gave him a handsome small medicine chest. He had it filled with his medicines in order to show his appreciation, but he never used it.

He was the surgeon for the two railroads that crossed at his town, and they extended to him every courtesy that they could. They would stop fast trains for him at small villages, and gave him the privilege of riding

on freight trains and of using a railroad tricycle on their tracks. He would take a man and this tricycle on one of the trains and go to his destination and have the man pull him back home. I remember that on one occasion he was trying to get his tricycle on a passenger train and the baggagemaster said he could not take it on. The conductor said, "Never mind, doctor, we will hold this train until he does take it on." One of his characteristics was that he would not take a railroad pass. His reason for this was that he did not want to be paid for his railroad surgery in passes; he preferred to charge regularly and to pay his fare.

His attitude toward the practice of medicine was the attitude of a practical man of sense engaged in practical affairs. And in this particular he differed most from the country doctor of romance. He was a genuinely kindly person; he would have been good to the deserving whether he had been a physician or not, but he was no mooning sentimentalist in medicine and no impractical altruist. He was not the unreal figure of the country doctor whose greatest satisfaction lay in wearing himself out for the benefit of the undeserving. He was a charitable person with all deserving enterprises in his community, not only with his time but with his money, and I think any one in the community would have said that he was generous of his services beyond his strength. Yet, as I say, my impression of him is not that of the family doctor of tradition—the Dr. McClures. Of course, his practice was in large part among poor people, many of whom could pay little. He had an admiration that amounted to affection for many striving men whose lot was hard. On the other hand, he had an antipathy for the man, poor or rich, who did not try to meet his obligations, and such people he did not willingly serve. In fact, he made rather a hard and fast distinction between the worthy and the unworthy, the useful and the useless in the world. He had little sympathy for the unworthy and a rather remarkably strong attitude that the useless, whether rich or poor, were litter on the earth. He did not actually refuse to serve these classes, but he did it with no particular zest. On the contrary, I have known him to spend many anxious periods over the illness or injury of those he respected. His premature death, in fact, was probably due to his attendance, when ill himself, on some serious cases among poor people, but people for whom he had always had friendship and admiration.

Under his leadership, the doctors of the county saw to it that they were paid by the county for taking care of the sick of the poorhouse, and I have more than once known him to get an order from the county judge which assured the payment by the county for some laborious pauper service before he undertook it. I do not believe that he ever sued any one for the collection of a bill and he did not send out bills, but he kept accurate books and he saw to it, as a rule, that his accounts were paid sooner or later. In short, he attended to the business side of medicine, which was a necessary side if he was to be just to himself and his family, as a practical man of sense. I would not give the impression that he was a cold, sharp business man. He was quite the opposite—a man in whom sentiment was a dominating motive; but I emphasize the practical business qualities of this man because I am trying to describe a real country doctor, not the imaginary one of any one's dreams.

What about the characteristics of the man himself? It goes without saying that he was a man of intelligence and good judgment; that was the key to his being a successful physician, as it will always be the key to being a successful physician. He was not a man of brilliant parts, but he was a sound, sane man of stable temperament. He had two outstanding qualities which I think were distinctly unusual. These were his poise and his personality. I have heard his father-in-law, an exceedingly wise old man, say repeatedly that he was the best balanced man he ever knew. He did not fail in any of the qualities of a man. And he had absolute control over his temper, as I have never seen it in any one else. I do not know whether "personality" is the proper word with which to express his other dominant characteristic, for this was shown only by his influence on those around him. This he had to a remarkable degree. A word, a suggestion, an opinion from him usually carried with it conclusive influence with those who looked to him. Perhaps one reason for this was that he was not copious in his advice. As for any ostentatious personality, in the ordinary sense that the temperamental use that word, he had none of it.

He met people easily, but he did not have a strong social instinct. He was reticent in company, but an exceedingly interesting talker with a single person to whom he was responsive. His manners and habits were those of a quiet, unostentatious gentleman. There was nothing of the officious, pretentious doctor about him. He had no mannerisms and no affectations. And he had no pompous medical dignity.

But he did have certain canons of his own as regards professional deportment. Under no circumstances would he mingle purposeless with a crowd of loafers, nor would he sit around the drugstore with them or have them in his office. He was as far as possible from a hail-fellow-well-met. And he would not go without a coat. I remonstrated with him one hot day about wearing his coat. His retort was that gentlemen did not go around in their shirt sleeves.

His dress was that of a man who bought good clothes but who was indifferent except about neatness. When he was in his winter clothes going out in the mud he might have on an overcoat spattered with red clay, a pair of arctic overshoes and a pair of old cloth leggings that reached up to the middle of the thigh and were tied in place with black tape. Then he looked the roughest person in the world and he did not care. When he took these off he was a spare built, ascetic looking man, dressed in the clean clothes of a gentleman and with linen that was always immaculate.

What were the advantages and disadvantages of such a life as X led?

It was in its labor and in its responsibilities a hard life; when demands on him were very heavy, as they often were, he would work long hours, practically to the point of exhaustion. Its chief hardship lay in these long hours and in the night work in time of stress and in the frequent interference with sleep. It also meant long rides and exposure in all sorts of weather. These, I think, except when they were excessive, were hardly to be classed as hardships. X got much pleasure out of his driving; most of the time he carried with him a companion, usually a child or some young person, never a man, unless a servant. I have heard him express his objection to men companions on his drives because they would insist on talking business to him. I have heard him say that it seemed to him that he got more pleasure from driving through the country than could possibly be hoped for by any one who had so much of that experience. As to various

sorts of weather, the weather was, like day and night, all the same to him. When it was time for him to begin a trip he started immediately—was impatient of delay, in fact—whether it was day or night, just before meal time, and regardless of storms. In winter he protected himself with warm wraps; in summer with linen clothes he bore the heat as best he could.

The compensations were, broadly, those of every successful, useful life. X would, doubtless, have said that his compensations were of two sorts: First, the material prosperity which enabled him to take excellent care of his family; second, the satisfaction that came from the feeling of usefulness to his community and from the knowledge of its esteem. He spent no time in self congratulation over the position he held in his community; but like a man of sense, he knew it and undoubtedly had satisfaction in it.

What sort of medical service did such a man give his people? For 90 per cent. of the ills of life, he gave them useful service. He watched them through their illnesses with care and good clinical judgment; he quieted their pain and relieved many of their other distressing symptoms; he bathed their fevers; in all sorts of intelligent ways, he gave their illnesses a chance to get well. He cured their fractures and dislocations and took about as good care as then could be done of their other injuries. The resources of modern surgery and those that come from our new knowledge of infectious diseases were not his to use, but, barring these, I think that in most ways he gave his patients about as good service as we can give them now. As I look back over his practice, I have no doubt of the value that he was to his people.

The best evidence of the usefulness of such a man lies in the esteem in which men like him were held in their communities. There is no place where one is submitted to more merciless scrutiny than in a small town. With all due respect for our popular prejudices about Main Street, I know no place where one is likely to be judged more justly from his works; and men like X have always been appraised as of the highest value in these communities. It is hard to convey to one who has not seen it the position of such a man. He is looked to for counsel, support, direction in all sorts of difficulties and crises, whether they are medical or not. He has a community influence that every one realizes. As to his own conduct he is much of a law unto himself. It is assumed that he will not do anything without justification and he can practically do as he pleases. I have no doubt that if X had committed a serious crime he would have been brought to justice, but he would have been brought to book for nothing less. The petty laws that were made for the sake of order and convenience in the community, for example, did not apply to him. He was as much privileged in breaking them as a fire engine is in breaking the traffic regulations. It is not true that he was loved by everybody, for he was a man of positive character and would have been the first one to suspect himself if every one had loved him; but he had the respect of everybody in his community and the deep affection of a large part of it.

It may be said, of course, that X was not the ordinary type of country doctor. As was said in the beginning, he was a successful country doctor. He was the outstanding medical man in his community, the sort of man who would have been a success anywhere, but as a successful country doctor I believe he was not extraordinary or unusual. Indeed, I have been surprised at the frequency with which I have learned of other country doctors who have occupied the same sort of place that he held. I have undertaken to ascertain, as accurately as possible, the positions in their communities and the characteristics of some of these practitioners and I have been impressed by the way in which they were exemplified in X: he was a good example, but he represented a type.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

VACCINE VIRUS (See New and Nonofficial Remedies, 1925, p. 341).

E. R. Squibb & Sons, New York.

Smallpox (Variola) Vaccine (Glycerinated) (See New and Nonofficial Remedies, 1925, p. 342).—Also marketed in packages of one tube.

TETANUS ANTITOXIN CONCENTRATED (See New and Nonofficial Remedies, 1925, p. 332).

Eli Lilly & Co., Indianapolis, Ind.

Tetanus Antitoxin (See New and Nonofficial Remedies, 1925, p. 333).—Also marketed in syringes containing 10,000 units.

E. R. Squibb & Sons, New York.

Tetanus Antitoxin Purified (See New and Nonofficial Remedies, 1925, p. 333).—Also marketed in packages of 20,000 units.

NOVARSENOBENZOL-BILLON (See New and Nonofficial Remedies, 1925, p. 50).

The following forms have been accepted:

Novarsenobenzol-Billon 0.15 Gm. Ampules.
Novarsenobenzol-Billon 0.3 Gm. Ampules.
Novarsenobenzol-Billon 0.45 Gm. Ampules.
Novarsenobenzol-Billon 0.75 Gm. Ampules.

ANTI-ANTHRAX SERUM (See New and Nonofficial Remedies, 1925, p. 336).

Lederle Antitoxin Laboratories, New York.

Anti-Anthrax Serum (See New and Nonofficial Remedies, 1925, p. 336).—Also marketed in packages of one 20 Cc. vial.

TUBERCULIN-KOCH (See New and Nonofficial Remedies, 1925, p. 345).

Lederle Antitoxin Laboratories, New York.

Tuberculin Pirquet Test ("T. O.") (See New and Nonofficial Remedies, 1925, p. 347).—Also marketed in packages containing ten capillary tubes and in packages containing twenty-five capillary tubes.

ANTIRABIC VACCINE (See New and Nonofficial Remedies, 1925, p. 342).

Eli Lilly & Co., Indianapolis.

Pasteur Antirabic Preventive Treatment (Harris Modification) (See New and Nonofficial Remedies, 1925, p. 343).—Supplied in emulsion in syringe, ready for use. A package containing the first seven doses is sent out from the nearby Lilly depot; a second package containing the last seven doses is sent out from the home office after an appropriate interval.

Antidysentric Serum in Mild Cases.—From the viewpoint of the clinician, antidysenteric serum may not be indicated in the milder types of bacillary dysentery. Usually, the patients seem to do well on salines. The microscopic study of these cases leads me strongly to the belief, however, that serum should be given in every case of bacillary dysentery—no matter how mild—provided the physical condition of the patient exhibits no contraindications to its administration. By that, I do not mean massive doses, but moderate doses of, say, 20 c.c. This almost immediately arrests the bacillary process in the mild cases.—Haughwout, F. G.: The Practical Microscopic Diagnosis of Dysentery, Manila, Bureau of Printing, 1924.

MEDICAL EDUCATION IN THE UNITED STATES

ANNUAL PRESENTATION OF EDUCATIONAL DATA FOR 1925 BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

The statistics herewith presented for the year ending June 30, 1925, are based on reports received from the medical colleges and other reliable sources. We acknowledge here the kind courtesy and cooperation of the officers of the colleges who have made the compilation of these statistics possible.

STATISTICS OF COLLEGES

Table 1, on pages 586, 587, gives the colleges in session during 1924-1925; the population of the city; the rating given to the college by the Council on Medical Education and Hospitals; the number of students, men and women, registered during the year; the number of 1925 graduates, men and women; the number of graduates holding collegiate degrees; the number of teachers for each college; the number of weeks of actual work in the college year; the total fees for each year; the executive officer of the college, and the dates of beginning and ending of the next session. The figures in heavy-faced type show the totals by states. Beginning on page 600 are given the essential facts concerning all medical colleges arranged by states.

HOME STATES OF MEDICAL STUDENTS

Table 2, on pages 588, 589, shows from what states the students came who were in attendance at each medical college during the session of 1924-1925. The influence of the proximity of the medical school is seen in the fact that states having medical colleges contribute larger numbers of students than those which have no colleges. This is shown by the dark zone of figures running diagonally down the page. It will be interesting to compare this table with the large tables based on state board examinations,[1] which show the distribution of the alumni of each college. The college that has a widely distributed alumni usually has a student body from an equally large number of states.

The state furnishing the largest number of students this year was New York, with 2,576. Pennsylvania contributed 1,409 and Illinois, 1,274. The next states, in the order of the number of students contributed, are: Ohio, 1,057; Massachusetts and Texas, each 645; Michigan, 641, and California, 610. Of the twelve states which have no medical schools, three furnished more than 100 students, these being New Jersey, 528; Washington, 152, and Florida, 104. Of these noncollege states, Nevada and Wyoming had 10 students each. There were 139 students from Hawaii, Porto Rico and the Philippine Islands. There were 275 students from foreign countries, as compared with 302 in 1924, 368 in 1923 and 314 in 1922.

1. State Board Number, J. A. M. A. 84: 1339-1359 (May 2) 1925.

NUMBER OF STUDENTS BY CLASSES

In Table 3, on page 590, the students enrolled in each college are shown by classes. This permits one to see whether the attendance at each college is increasing or decreasing. The total attendance for the first year was 5,492, or 332 more than last year, and 330 more than in 1923. The second year attendance was 4,415, or 26 less than last year and 200 less than in 1923. The third year attendance was 4,136, or 194 less than last year but 275 more than in 1923. The enrolment of the fourth year class was 4,157, or 360 more than last year and 835 more than in 1923.

NUMBER OF MEDICAL STUDENTS

The total number of medical students (Table 4) in the United States for the year ending June 30, 1925, excluding premedical, special and postgraduate students, was 18,200, an increase of 472 over last year. This is the largest enrolment of students since 1912.

TABLE 4.—*Medical College Attendance*

Year	Non-sectarian	Homeopathic	Eclectic	Physio-Med.	Nondescript	Total
1880	9,776	1,220	830	...	...	11,826
1890	13,521	1,184	719	...	...	15,404
1900	22,710	1,909	522	...	...	25,171
1904	25,692	1,309	1,014	123	234	28,142
1910	20,126	867	455	49	19	21,526
1911	18,414	890	433	49	...	19,786
1912	17,277	827	308	...	...	18,412
1913	15,919	850	256	...	...	17,015
1914	15,438	794	270	...	...	16,502
1915	13,914	736	241	...	...	14,891
1916	13,121	638	263	...	...	14,012
1917	12,925	580	250	...	...	13,764
1918	12,727	540	138	...	225	13,630
1919	12,147	407	86	...	310	12,950
1920	12,930	386	93	...	389	13,798
1921	13,627	440	98	...	301	14,466
1922	14,742	517	85	...	291	15,635
1923	16,290	341	* 99	...	221	16,950
1924	17,034	379	127	...	188	17,728
1925	17,652	410	148	...	...	18,200

Enrolments in certain previous years are given for comparison. There has been a steady increase in enrolment since 1919. Of the total number of students last year, 17,652 were in the nonsectarian (regular) colleges, 410 at the two remaining homeopathic colleges and 148 at the one remaining eclectic college. The three nondescript[2] colleges reported neither students nor graduates for the session ending in 1925

NUMBER OF MEDICAL GRADUATES

The total number of graduates (see Table 5) for the year ending June 30, 1925, was 3,974, or 412 more

(Continued on page 590)

2. Two of the nondescript colleges, the Middlesex College of Medicine and Surgery and the Kansas City College of Medicine and Surgery, together with one regular college graded in Class C, the St. Louis College of Physicians and Surgeons, were involved in the Connecticut illegal license scandal, according to drastic reports regarding them which were issued by the Connecticut Special Grand Jury on March 14, 1924. These reports were published in THE JOURNAL, Vol. 82 (1924) on March 29, page 1067; April 12, page 1219; and April 5, on page 1140, respectively.

TABLE 1.—STATISTICS OF MEDICAL COLLEGES IN THE UNITED STATES AND CANADA

Marginal Number	NAME AND LOCATION OF COLLEGE	Population of City Where College Is Located (Census Bureau Estimate of 1999)	Classification by Council on Medical Education	No. of Students Registered 1924-25		Graduates 1925		Grads. with A.B., B.S., or Ph.B.	Number of Teachers	Weeks in College Year	Total Fees (Dollars)				Executive Officer	Session of 1925-26		Marginal Number
				Men	Women	Men	Women				1st Year	2d Year	3d Year	4th Year		Begins 1925	Ends 1926	
	ALABAMA			64	2	..	..	..										
1	University of Alabama School of Medicine, University (Tuscaloosa)*	11,996	A	84	2	..	..	..	12	35	260	260	...	...	Clyde Brooks, M.D., Dean	Sept. 9	May 25	1
	ARKANSAS			132	1	23	..	6										
2	University of Arkansas Medical Department, Little Rock [1]	65,142	A	132	1	23	..	6	71	35	80	85	70	95	Morgan Smith, M.D., Dean	Sept. 17	June 3	2
	CALIFORNIA			548	80	128	15	130										
3	College of Medical Evangelists, Los Angeles	576,673	A	225	25	64	3	63	161	36	221	263	258	255	Percy T. Magan, M.D., Dean	Sept. 6	May 30	3
4	Stanford University School of Medicine, San Francisco	506,676	A	149	20	24	4	28	165	34	261	261	261	261	William Ophüls, M.D., Dean	Oct. 1	June 16	4
5	University of California Medical School, San Francisco [1]	506,676	A	174	35	41	8	39	226	36	260	248	235	225	L. S. Schmitt, M.D., Dean	Aug. 14	May 12	5
	COLORADO			134	14	27	3	8										
6	University of Colorado School of Medicine, Denver [1]	256,491	A	134	14	27	3	8	73	34	206	221	191	181	Maurice H. Rees, M.D., Dean	Sept. 28	June 14	6
	CONNECTICUT			181	5	42	3	40										
7	Yale University School of Medicine, New Haven	162,537	A	181	5	42	3	40	139	34	305	300	300	320	Milton C. Winternitz, M.D., Dean	Oct. 1	June 16	7
	DISTRICT OF COLUMBIA			715	14	155	5	87										
8	Georgetown University School of Medicine, Washington	437,571	A	229	..	42	..	23	101	34	215	200	200	210	George M. Kober, M.D., Dean	Sept. 24	June 9	8
9	George Washington University Medical School, Washington	437,571	A	243	10	42	4	21	153	34	295	292	292	292	William C. Borden, M.D., Dean	Sept. 23	June 9	9
10	Howard University School of Medicine, Washington	437,571	A	243	4	71	1	43	56	34	163	158	158	165	Edward A. Balloch, M.D., Dean	Oct. 1	June 11	10
	GEORGIA			343	4	85	..	41										
11	Emory University School of Medicine, Atlanta	200,616	A	217	..	60	..	27	127	33	253	233	228	253	Russell H. Oppenheimer, M.D., Dean	Sept. 29	June 8	11
12	University of Georgia Medical Department, Augusta [1]	52,548	A	126	4	25	..	14	61	34	115	60	60	60	William H. Goodrich, M.D., Dean	Sept. 14	May 31	12
	ILLINOIS			1767	110	372	16	321										
13	Chicago Medical School, Chicago	2,701,705	C	120	9	0	0	28	75	42	250	275	300	325	William T. Carlisle, M.D., Dean	Oct. 5	Aug. 21	13
14	Loyola University School of Medicine, Chicago	2,701,705	A	317	12	52	3	22	113	33	300	300	300	300	Louis D. Moorhead, M.D., Dean	Oct. 1	June 9	14
15	Northwestern University Medical School, Chicago	2,701,705	A	428	..	105	..	60	188	34	244	244	245	290	Irving S. Cutter, M.D., Dean	Sept. 29	June 12	15
16	Rush Medical College (University of Chicago)	2,701,705	A	467	64	122	11	130	284	34	280	270	270	290	Ernest E. Irons, M.D., Dean	Oct. 1	June 16	16
17	University of Illinois College of Medicine, Chicago [1]	2,701,705	A	435	25	93	2	80	213	33	165	165	165	165	Albert C. Eycleshymer, M.D., Dean	Oct. 5	June 12	17
	INDIANA			382	17	80	8	86										
18	Indiana University School of Medicine, Bloomington-Indianapolis [1]	314,194	A	382	17	80	8	86	266	36	175	175	175	175	Charles P. Emerson, M.D., Dean	Sept. 14	June 9	18
	IOWA			401	10	74	2	55										
19	State University of Iowa College of Medicine, Iowa City [1]	11,267	A	401	10	74	2	55	97	34	186	186	186	186	Lee Wallace Dean, M.D., Dean	Sept. 21	June 5	19
	KANSAS			155	10	32	..	22										
20	University of Kansas School of Medicine, Lawrence-Kansas City [1]	101,177	A	155	10	32	..	22	113	36	125	100	106	110	Harry Roswell Wahl, M.D., Acting Dean	Sept. 10	June 8	20
	KENTUCKY			271	5	61	2	24										
21	University of Louisville School of Medicine, Louisville	234,891	A	271	5	61	2	24	109	36	260	260	270	290	Stuart Graves, M.D., Dean	Sept. 14	June 17	21
	LOUISIANA			373	10	85	2	48										
22	Tulane University of Louisiana School of Medicine, New Orleans	387,219	A	373	10	85	2	48	142	34	245	235	220	270	Charles C. Bass, M.D., Dean	Sept. 24	June 9	22
	MARYLAND			603	45	150	11	105										
23	Johns Hopkins University Medical Department, Baltimore	733,826	A	255	39	68	10	78	237	33	310	310	310	317	Lewis Hill Weed, M.D., Dean	Sept. 28	June 8	23
24	Univ. of Maryland School of Med and Coll of P. & S., Baltimore [1]	733,826	A	348	6	82	1	27	205	33	270	260	260	270	J. M. H. Rowland, M.D., Dean	Sept. 28	June 5	24
	MASSACHUSETTS			1164	48	270	14	140										
25	Boston University School of Medicine, Boston	748,060	A	188	22	39	11	19	114	35	306	306	306	316	Alexander S. Begg, M.D., Dean	Sept. 21	June 14	25
26	College of Physicians and Surgeons, Boston [2]	748,060	C	20	..	4	..	..	..	..	125	155	125	115	.....	.....	.....	26
27	Harvard University Medical School, Boston	748,060	A	506	..	126	..	108	322	36	305	300	300	300	David L. Edsall, M.D., Dean	Sept. 28	June 24	27
28	Tufts College Medical School, Boston	748,060	A	150	26	101	3	13	161	34	305	300	300	316	Stephen Rushmore, M.D., Dean	Sept. 16	May 29	28
29	Middlesex College of Medicine and Surgery, Cambridge.—N.S.	109,694	C	...	..	..	..	..	..	..	175	175	175	175	.....	.....	.....	29
	MICHIGAN			703	33	176	9	83										
30	University of Michigan Medical School, Ann Arbor [1 4]	19,516	A	503	30	150	8	80	155	35	190	180	180	190	Hugh Cabot, M.D., Dean	Sept. 22	June 14	30
31	Detroit College of Medicine and Surgery, Detroit [1]	993,678	A	200	3	26	1	3	129	35	175	175	175	175	W. H. MacCraken, M.D., Dean	Oct. 1	June 19	31
	MINNESOTA			394	31	97	8	104										
32	University of Minnesota Medical School, Minneapolis [1]	380,582	A	294	31	97	8	104	282	34	189	189	189	189	Elias P. Lyon, M.D., Dean	Sept. 28	June 12	32
	MISSISSIPPI			64	..	..	..	..										
33	University of Mississippi School of Medicine, University (Oxford)* [1]	2,150	A	64	..	..	..	..	17	34	163	163	...	...	Joseph O. Crider, M.D., Dean	Sept. 16	June 1	33
	MISSOURI			856	13	178	1	129										
34	University of Missouri School of Medicine, Columbia* [1]	10,392	A	76	4	..	..	28	35	125	113	...	...	...	Guy L. Noyes, M.D., Dean	Sept. 16	June 5	34
35	Kansas City College of Medicine and Surgery, Kansas City.N.S.	433,261	C	...	..	..	..	..	..	200	200	200	200	.....	.....	.....	35
36	Kansas City University of Physicians and Surgeons, Kansas City.N.S.	433,261	C	...	..	..	..	..	..	200	200	200	205	.....	.....	.....	36
37	St. Louis College of Physicians and Surgeons, St. Louis [2]	772,897	C	34	1	10	..	..	..	210	205	205	230	.....	.....	.....	37
38	St. Louis University School of Medicine, St. Louis	772,897	A	463	..	94	..	82	249	32	320	320	320	320	Hanau W. Loeb, M.D., Dean	Oct. 1	June 1	38
39	Washington University School of Medicine, St. Louis	772,897	A	283	8	74	1	47	167	34	317	312	312	317	McKim Marriott, M.D., Dean	Sept. 24	June 10	39
	NEBRASKA			486	19	136	4	109										
40	Creighton University College of Medicine, Omaha	191,601	A	169	2	36	1	35	78	33	195	190	190	200	Hermann von W. Schulte, M.D., Dean	Sept. 24	June 3	40
41	University of Nebraska College of Medicine, Omaha	191,601	A	317	17	100	3	74	111	34	180	170	160	160	J. Jay Keegan, M.D., Dean	Sept. 21	June 5	41

	NEW HAMPSHIRE																		
42	Dartmouth Medical School, Hanover*	1,551	A	39	..	..	..	..								John M. Gile, M.D., Dean	Sept. 16	June 22	42
				39	..	..	..	..	16	86	310	310	...	...					
	NEW YORK			1897	161	449	42	279											
43	Albany Medical College, Albany	113,344	A	80	3	16	..	7	100	35	320	305	305	305		Thomas Ordway, M.D., Dean	Sept. 21	June 14	43
44	University of Buffalo Medical Department, Buffalo	506,775	A	221	17	46	5	35	150	34	327	317	317	327		C. Sumner Jones, M.D., Dean	Sept. 21	June 9	44
45	Columbia University College of Phys. and Surgs., New York City	5,620,048	A	349	48	82	11	80	343	33	332	332	332	332		William Darrach, M.D., Dean	Sept. 23	June 2	45
46	Cornell University Medical College, New York City	5,620,048	A	223	39	45	12	57	193	34	345	335	335	350		Walter L. Niles, M.D., Dean	Sept. 28	June 10	46
47	Long Island College Hospital, New York City-Brooklyn	5,620,048	A	380	8	96	1	25	162	35	360	350	375	380		Adam M. Miller, M.D., Dean	Sept. 21	June 8	47
48	New York Homeopathic Medical College and Flower Hospital.—H.	5,620,048	B	176	10	30	2	1	92	31	360	350	350	330		Israel S. Kleiner, Ph.D., Dean	Sept. 18	May 8	48
49	University and Bellevue Hospital Medical College, New York City	5,620,048	A	401	30	95	7	46	189	35	377	379	384	332		Samuel A. Brown, M.D., Dean	Sept. 16	June 9	49
50	University of Rochester School of Medicine, Rochester [6]	295,750	..	...	..	..	..	..	19	37	300	300	300	300		George H. Whipple, M.D., Dean	Sept. 17	June 21	50
51	Syracuse University College of Medicine, Syracuse	171,717	A	167	16	39	4	28	116	35	335	325	335	345		Herman G. Weiskotten, M.D., Dean	Sept. 21	June 14	51
	NORTH CAROLINA			124	2	..	..	..											
52	University of North Carolina School of Medicine, Chapel Hill*	1,488	A	75	2	..	..	..	13	35	195	195	...	...		I. H. Manning, M.D., Dean	Sept. 17	June 4	52
53	Wake Forest College School of Medicine, Wake Forest*	1,425	A	49	..	..	..	..	10	35	200	200	...	...		Thurman D. Kitchin, M.D., Dean	Sept. 15	June 4	53
	NORTH DAKOTA			43	1	..	..	..											
54	Univ. of North Dakota School of Med., University (Grand Forks)* [3]	14,010	A	43	1	..	..	..	15	36	60	60	...	...		H. E. French, M.D., Dean	Sept. 19	June 15	54
	OHIO			806	39	226	6	139											
55	Eclectic Medical College, Cincinnati.—E.	401,247	B	147	1	38	..	2	52	32	220	210	210	210		Rolla L. Thomas, M.D., Dean	Sept. 17	May 17	55
56	University of Cincinnati College of Medicine	401,247	A	236	17	62	3	48	205	35	330	330	320	320		Arthur C. Bachmeyer, M.D., Dean	Sept. 21	June 12	56
57	Western Reserve University School of Medicine, Cleveland	796,841	A	200	9	39	1	40	169	34	275	260	250	260		Carl A. Hamann, M.D., Dean	Oct. 1	June 17	57
58	Ohio State University College of Medicine, Columbus [1]	237,031	A	313	12	87	2	49	113	34	180	180	180	180		Eugene F. McCampbell, M.D., Dean	Sept. 29	June 15	58
	OKLAHOMA			158	12	28	1	28											
59	University of Oklahoma School of Medicine, Norman-Oklahoma City [1]	91,295	A	158	12	28	1	28	83	35	68	65	70	21		LeRoy Long, M.D., Dean	Sept. 17	June 8	59
	OREGON			198	12	41	4	21											
60	University of Oregon Medical School, Portland [1]	258,288	A	198	12	41	4	21	144	34	195	190	190	190		Richard B. Dillehunt, M.D., Dean	Sept. 29	June 14	60
	PENNSYLVANIA			1675	134	406	40	224											
61	Hahnemann Medical College and Hospital of Philadelphia.—H.	1,823,779	A	204	..	48	..	30	114	33	275	272	272	272		William A. Pearson, M.D., Dean	Sept. 29	June 4	61
62	Jefferson Medical College of Philadelphia	1,823,779	A	578	..	142	..	61	179	34	335	335	325	325		Ross V. Patterson, M.D., Dean	Sept. 23	June 4	62
63	Temple University School of Medicine, Philadelphia	1,823,779	B	214	6	44	4	7	134	36	230	225	215	215		Frank C. Hammond, M.D., Dean	Sept. 21	June 18	63
64	University of Pennsylvania School of Medicine, Philadelphia [4]	1,823,779	A	451	20	126	5	87	216	35	333	325	325	320		William Pepper, M.D., Dean	Sept. 25	June 16	64
65	Woman's Medical College of Pennsylvania, Philadelphia	1,823,779	A	...	94	..	30	17	69	35	400	400	400	450		Martha Tracy, M.D., Dean	Sept. 23	June 9	65
66	University of Pittsburgh School of Medicine, Pittsburgh	588,343	A	213	14	40	1	32	100	36	328	313	313	328		Raleigh R. Huggins, M.D., Dean	Sept. 21	June 9	66
	SOUTH CAROLINA			152	4	35	..	13											
67	Medical College of the State of South Carolina, Charleston	67,957	A	152	4	35	..	13	61	33	165	165	165	165		Robert Wilson, M.D., Dean	Sept. 24	June 3	67
	SOUTH DAKOTA			39	1	..	..	..											
68	University of South Dakota College of Medicine, Vermilion*	2,560	A	39	1	..	..	..	11	36	100	100	...	...		Christian P. Lommen, B.S., Dean	Sept. 16	June 12	68
	TENNESSEE			602	4	135	..	56											
69	University of Tennessee College of Medicine, Memphis [1]	162,351	A	216	3	58	..	23	152	33	107	102	102	127		James B. McElroy, M.D., Dean	Sept. 28	June 7	69
70	Meharry Medical College, Nashville	118,342	A	205	1	34	..	20	40	31	160	160	160	180		John J. Mullowney, M.D., President	Oct. 1	May 20	70
71	Vanderbilt University School of Medicine, Nashville	118,342	A	181	..	43	..	13	116	35	215	215	215	240		G. Canby Robinson, M.D., Dean	Sept. 23	June 9	71
	TEXAS			453	23	83	1	34											
72	Baylor University College of Medicine, Dallas	158,976	A	231	12	36	1	9	104	32	208	198	188	188		Walter H. Moursund, M.D., Dean	Sept. 28	May 31	72
73	University of Texas School of Medicine, Galveston [1]	44,255	A	222	11	47	..	25	46	32	198	178	175	173		William Keller, M.D., Dean	Oct. 1	May 31	73
	UTAH			46	..	..	..	..											
74	University of Utah School of Medicine, Salt Lake City*	118,110	A	46	..	..	..	..	18	33	150	150	...	...		Ralph O. Porter, M.D., Dean	Sept. 27	June 5	74
	VERMONT			115	8	42	1	12											
75	University of Vermont College of Medicine, Burlington [1]	22,779	A	115	8	42	1	12	47	36	200	200	200	225		Henry Crain Tinkham, M.D., Dean	Sept. 16	June 18	75
	VIRGINIA			503	16	111	6	42											
76	Medical College of Virginia, Richmond	171,667	A	298	8	61	3	22	141	34	295	295	286	316		Manfred Call, M.D., Dean	Sept. 16	June 1	76
77	University of Virginia Department of Medicine, Charlottesville	10,688	A	205	8	50	3	20	46	36	255	255	205	195		James C. Flippin, M.D., Acting Dean	Sept. 17	June 15	77
	WEST VIRGINIA			109	2	..	..	..											
78	West Virginia University School of Medicine, Morgantown* [1]	12,127	A	109	2	..	..	..	16	35	95	95	...	...		John N. Simpson, M.D., Dean	Sept. 22	June 15	78
	WISCONSIN			390	20	42	..	38											
79	University of Wisconsin Medical School, Madison [1]	38,378	A	151	14	..	..	..	80	36	115	95	95	...		Charles R. Bardeen, M.D., Dean	Sept. 23	June 21	79
80	Marquette University School of Medicine, Milwaukee	457,147	A	239	6	42	..	38	118	34	313	308	303	288		Eben J. Carey, D.Sc., Dean	Sept. 28	June 9	80
	CANADA †			2421	115	446	27	178											
81	University of Alberta Faculty of Medicine, Edmonton, Alta.	58,821	..	110	8	10	1	2	81	30	182	182	182	182		Allan C. Rankin, M.D., Dean	Sept. 30	May 15	81
82	Dalhousie University Faculty of Medicine, Halifax, N. S.	58,372	..	156	8	41	2	8	59	33	200	200	200	200		John Stewart, M.D., Dean	Sept. 7	May 11	82
83	Queen's University Faculty of Medicine, Kingston, Ont.[8]	21,753	..	204	..	0	0	..	48	31	148	151	146	160		J. C. Connell, M.D., Dean	Sept. 30	May 19	83
84	University of Toronto Faculty of Medicine, Toronto, Ont.	521,893	..	707	67	127	13	19	200	32	163	163	163	163		Alexander Primrose, M.D., Dean	Sept. 29	May 20	84
85	University of Western Ontario Medical School, London, Ont.	60,959	..	98	1	21	..	5	72	33	156	163	163	183		Paul S. McKibben, Ph.D., Dean	Sept. 22	May 28	85
86	McGill University Faculty of Medicine, Montreal, Que.	618,506	..	462	18	96	1	15	158	29	232	232	232	232		Charles F. Martin, M.D., Dean	Sept. 21	April 28	86
87	University of Montreal Medical Faculty, Montreal, Que.	618,506	..	249	2	74	..	48	85	36	207	200	242	214		Louis de Lotbiniere Harwood, M.D., Dean	Sept. 15	June 15	87
88	Laval University Faculty of Medicine, Quebec, Que.	95,193	..	223	..	30	..	25	50	36	150	150	150	150		Arthur Vallée, M.D., Secretary	Sept. 5	June —	88
89	University of Manitoba Faculty of Medicine, Winnipeg, Man.	179,087	..	212	11	47	10	9	125	32	180	175	185	185		S. Willis Prowse, M.D., Dean	Sept. 28	May 29	89

E.—Eclectic; H.—Homeopathic; N.—Nondescript.

* Gives only the first two years of the medical course.

1. The following universities make an additional charge for non-residents: Arkansas, $100; California, $300; Colorado, $105; Georgia, $300; Illinois, $85; Indiana, $75; Iowa, $164; Kansas, $10; Maryland, $50; Michigan, $80; Detroit, $75; Minnesota, $80; Mississippi, $50; Missouri, $10; North Dakota, $50; Ohio, $105; Oklahoma, $137; Oregon, $60; Tennessee, $100; Texas, $150; Vermont, $100; West Virginia, $150; Wisconsin, $95.

2. The number of students is approximate; the number of graduates exact.

3. No students or graduates reported for the session of 1924-25.

4. Two medical schools make a lower tuition charge for women than for men. The charge is $5 less each year at the University of Michigan and $15 less at the University of Pennsylvania.

5. The number of students is exact; the number of graduates approximate.

6. The Medical Department of the University of Rochester begins its first session Sept. 17, 1925. The freshman class will not exceed 25, men and women being admitted on equal terms.

7. The population of Canadian cities, where medical colleges are located, was taken from the "Sixth Census of Canada, 1921."

8. Queen's University Faculty of Medicine had no graduates this year owing to the change from the five to the six year medical course.

Marginal Number	NAME OF COLLEGE	1 Alabama....255	2 Arizona....18	3 Arkansas....122	4 California....610	5 Colorado....169	6 Connecticut....282	7 Delaware....36	8 Dist. of Columbia 194	9 Florida....104	10 Georgia....220	11 Idaho....34	12 Illinois....1,274	13 Indiana....311	14 Iowa....561	15 Kansas....269	16 Kentucky....271	17 Louisiana....177	18 Maine....78	19 Maryland....246	20 Massachusetts....645	Marginal Number
1	University of Alabama School of Medicine	69	....	....	....	....	....	....	....	2	3	....	....	....	....	....	....	2	....	....	....	1
2	University of Arkansas Medical Department	....	....	66	2	....	1	....	....	....	1	....	....	2	3	4	2	2	....	....	1	2
3	College of Medical Evangelists	....	3	....	67	7	....	....	12	2	....	2	6	3	4	5	....	1	1	....	1	3
4	Stanford University School of Medicine	....	....	....	143	....	....	....	....	....	....	4	....	1	....	....	....	....	....	....	....	4
5	University of California Medical School	....	1	....	203	....	....	....	....	....	....	....	1	....	1	....	....	....	....	....	....	5
6	University of Colorado School of Medicine	....	....	1	2	113	....	....	....	....	....	2	3	2	1	4	....	....	....	1	1	6
7	Yale University School of Medicine	....	....	....	5	....	91	....	1	....	....	....	1	....	....	1	1	....	6	1	5	7
8	Georgetown University School of Medicine	....	....	....	....	....	20	1	38	....	....	....	....	....	....	....	....	....	3	2	15	8
9	George Washington University Medical School	....	....	....	1	....	4	1	71	....	....	1	2	....	....	3	....	....	....	13	....	9
10	Howard University School of Medicine	3	....	4	4	....	4	1	35	7	5	....	8	1	2	3	9	7	....	13	3	10
11	Emory University School of Medicine	30	....	....	1	....	....	....	2	20	136	....	....	....	....	....	1	1	....	....	....	11
12	University of Georgia Medical Department	....	....	....	....	....	....	....	....	1	115	....	....	....	....	....	1	1	....	....	1	12
13	Chicago Medical School	....	....	....	1	....	....	....	....	2	....	....	79	2	2	1	....	3	....	....	2	13
14	Loyola University School of Medicine	....	....	....	1	1	2	....	....	....	....	....	261	7	12	2	1	....	....	....	....	14
15	Northwestern University Medical School	1	3	....	17	7	1	....	1	....	1	4	161	18	21	13	3	2	1	....	1	15
16	Rush Medical College (University of Chicago)	7	....	3	4	2	1	....	....	2	1	5	223	24	29	15	3	....	2	1	1	16
17	University of Illinois College of Medicine	2	3	....	6	1	....	....	....	1	....	1	378	6	3	2	....	....	....	....	....	17
18	Indiana University School of Medicine	....	....	....	2	....	....	....	....	....	....	....	7	331	1	....	7	....	....	....	....	18
19	State University of Iowa College of Medicine	....	....	....	1	....	....	....	....	....	....	....	7	....	361	2	....	....	....	....	....	19
20	University of Kansas School of Medicine	....	1	....	1	....	....	....	....	....	....	....	3	....	....	136	....	....	....	....	....	20
21	University of Louisville School of Medicine	5	1	....	5	....	1	....	....	....	1	....	4	24	....	4	142	....	1	....	....	21
22	Tulane University of Louisiana School of Medicine	49	2	12	5	....	3	....	....	20	8	....	3	....	....	2	5	131	....	1	1	22
23	Johns Hopkins University Medical Department	9	....	3	4	3	5	2	6	5	5	2	7	5	2	1	5	....	1	55	9	23
24	Univ. of Maryland Sch. of Med. and Coll. of P. & S.	1	....	....	1	....	9	2	2	1	1	....	....	....	....	....	2	....	....	120	....	24
25	Boston University School of Medicine	....	....	....	1	....	12	....	....	....	....	....	....	1	....	....	....	....	17	1	78	25
26	College of Physicians and Surgeons, Boston*	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	20	26
27	Harvard University Medical School	6	1	....	30	3	17	....	2	1	5	1	13	8	6	4	5	....	16	3	133	27
28	Tufts College Medical School	1	....	....	....	....	44	....	....	....	....	....	....	....	....	....	....	....	15	....	310	28
29	Middlesex College of Medicine and Surgery.—N.†	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	29
30	University of Michigan Medical School	1	....	....	7	....	1	....	1	1	1	....	2	23	4	....	3	....	....	1	3	30
31	Detroit College of Medicine and Surgery	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	31
32	University of Minnesota Medical School	....	....	....	....	1	....	....	....	....	....	....	2	1	4	1	....	....	....	....	....	32
33	University of Mississippi School of Medicine	1	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	5	....	....	....	33
34	University of Missouri School of Medicine	1	....	....	....	....	....	....	....	....	....	....	1	....	1	....	....	....	....	....	....	34
35	Kansas City College of Medicine and Surgery.—N.†	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	35
36	Kansas City University of Physicians and Surg.—N.†	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	36
37	St. Louis College of Physicians and Surgeons‡	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	37
38	St. Louis University School of Medicine	3	1	1	29	3	1	....	1	2	....	1	60	8	18	18	....	4	....	....	5	38
39	Washington University School of Medicine	2	....	8	11	3	....	....	1	....	2	2	44	2	6	18	2	....	....	....	....	39
40	Creighton University College of Medicine	....	....	....	2	6	....	....	....	....	....	1	5	1	27	3	....	....	....	....	....	40
41	University of Nebraska College of Medicine	....	....	2	2	8	....	....	....	....	....	2	1	....	10	11	....	....	....	....	....	41
42	Dartmouth Medical School	....	....	....	1	....	2	....	1	1	....	....	1	....	1	....	....	....	....	....	8	42
43	Albany Medical College	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	43
44	University of Buffalo Medical Department	....	....	....	....	....	1	....	....	....	....	....	....	....	1	....	....	....	....	....	1	44
45	Columbia University College of Physicians and Surg.	2	....	....	3	2	11	....	....	1	2	....	....	2	2	1	1	....	1	1	6	45
46	Cornell University Medical College	1	....	....	6	1	5	....	....	2	....	....	2	4	....	1	2	....	1	1	7	46
47	Long Island College Hospital	....	....	....	....	....	5	....	....	....	....	....	....	....	....	....	....	....	1	....	2	47
48	New York Homeo. Med. Coll. and Flower Hosp.—H.	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	48
49	University and Bellevue Hospital Medical College	....	....	....	1	1	8	....	....	3	....	....	....	....	....	....	....	1	....	1	....	49
50	Syracuse University College of Medicine	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	3	50
51	University of North Carolina School of Medicine	....	....	....	....	....	1	....	....	1	....	....	....	....	....	....	....	....	....	....	....	51
52	Wake Forest College School of Medicine	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	52
53	University of North Dakota School of Medicine	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	53
54	Eclectic Medical College, Cincinnati.—E	....	1	....	....	....	....	....	....	....	1	....	9	11	2	2	14	....	....	1	....	54
55	University of Cincinnati College of Medicine	....	....	1	4	....	1	....	....	....	....	1	....	7	2	....	26	....	1	....	....	55
56	Western Reserve University School of Medicine	....	....	....	1	....	1	....	....	1	....	....	1	2	....	2	....	....	2	1	....	56
57	Ohio State University College of Medicine	....	....	....	1	....	....	....	....	....	....	....	....	2	....	....	....	....	....	1	....	57
58	University of Oklahoma School of Medicine	....	....	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	....	....	58
59	University of Oregon Medical School	1	1	....	9	....	....	....	....	....	....	2	....	....	....	....	....	1	....	1	2	59
60	Hahnemann Med. Coll. and Hosp. of Philadelphia.—H.	....	....	....	2	1	1	8	1	1	....	....	2	1	2	....	2	....	....	2	60	60
61	Jefferson Medical College of Philadelphia	5	....	1	3	1	11	6	3	5	3	....	4	5	3	2	....	....	1	9	5	61
62	Temple University School of Medicine	1	....	....	1	....	2	1	1	1	....	....	....	....	....	....	....	....	....	....	....	62
63	University of Pensylvania School of Medicine	6	....	....	6	2	....	3	1	1	3	....	3	....	5	1	1	1	2	5	4	63
64	Woman's Medical College of Pennsylvania	....	....	1	4	....	1	....	2	....	1	....	....	....	1	....	....	....	....	3	....	64
65	University of Pittsburgh School of Medicine	....	....	....	....	....	....	....	....	....	....	....	1	....	1	....	1	....	....	....	....	65
66	Medical College of the State of South Carolina	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1	....	....	....	....	66
67	University of South Dakota College of Medicine	....	....	....	....	....	....	....	....	....	....	....	1	....	6	....	....	....	....	....	1	67
68	University of Tennessee College of Medicine	12	....	11	....	1	....	....	1	2	4	....	2	1	....	2	6	5	....	1	....	68
69	Meharry Medical College	10	....	3	1	....	1	....	9	10	15	....	8	2	1	....	2	3	....	1	3	69
70	Vanderbilt University School of Medicine	22	....	4	....	....	2	....	....	3	4	....	1	1	1	3	15	1	....	....	....	70
71	Baylor University College of Medicine	1	....	....	3	....	....	....	....	....	....	....	1	....	1	1	1	5	....	....	....	71
72	University of Texas School of Medicine	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	72
73	University of Utah School of Medicine	....	....	....	1	2	....	....	....	....	....	3	....	....	....	....	....	....	....	....	....	73
74	University of Vermont College of Medicine	....	....	....	2	....	6	....	....	....	....	....	....	....	....	....	....	....	5	....	10	74
75	Medical College of Virginia	....	....	....	....	....	....	....	1	1	....	....	....	....	....	....	3	....	....	6	....	75
76	University of Virginia Department of Medicine	3	....	....	....	....	1	1	1	3	1	....	....	....	....	....	1	2	....	2	1	76
77	West Virginia University School of Medicine	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1	....	....	....	....	77
78	University of Wisconsin Medical School	....	....	....	2	....	1	....	....	....	....	....	8	3	3	1	1	....	....	....	....	78
79	Marquette University School of Medicine	1	....	....	....	....	....	....	....	....	....	....	7	....	11	....	2	....	....	....	....	79
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	

E.—Eclectic; H.—Homeopathic; N.—Nondescript.
* Figures and distribution are approximate.

† No students reported for the session of 1924–25.
‡ Figures exact; distribution approximate.

Marginal Number	21 Michigan.....641	22 Minnesota.....522	23 Mississippi.....146	24 Missouri.....498	25 Montana.....58	26 Nebraska.....388	27 Nevada.....10	28 New Hampshire...50	29 New Jersey.....328	30 New Mexico.....26	31 New York.....2,576	32 North Carolina...355	33 North Dakota.....70	34 Ohio.....1,057	35 Oklahoma.....231	36 Oregon.....200	37 Pennsylvania...1,409	38 Rhode Island.....95	39 South Carolina...232	40 South Dakota.....97	41 Tennessee.....395	42 Texas.....645	43 Utah.....118	44 Vermont.....95	45 Virginia.....443	46 Washington.....152	47 West Virginia.....295	48 Wisconsin.....477	49 Wyoming.....10	50 Philippines, etc...139	51 Foreign.....275	Totals.....18,200	Marginal Number
1	....	....	3	....	....	....	....	....	....	....	1	....	....	2	....	....	....	....	....	....	1	....	....	....	3	....	....	....	....	....	....	86	1
2	2	....	....	3	....	1	....	....	2	....	30	....	....	1	2	....	....	1	....	....	1	3	....	....	....	....	....	1	....	2	....	133	2
3	10	9	....	2	1	10	1	1	3	....	3	1	3	3	5	7	6	....	1	3	10	3	....	3	2	15	....	1	....	4	29	250	3
4	....	....	....	1	....	....	5	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	1	....	....	4	....	....	1	3	4	109	4
5	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	209	5
6	1	3	....	1	....	1	....	....	....	....	....	....	....	3	1	....	....	1	....	....	1	1	....	1	1	....	1	1	....	....	2	148	6
7	....	....	....	....	....	....	....	1	5	....	36	3	....	8	1	1	6	1	1	....	....	....	1	2	....	1	1	1	....	....	5	186	7
8	....	1	....	....	2	....	....	....	32	....	60	2	....	3	....	....	28	12	....	1	....	1	....	....	....	5	....	1	....	2	....	229	8
9	....	1	1	1	....	....	....	....	26	....	68	5	....	3	....	....	13	....	1	1	1	1	7	....	13	1	5	1	....	8	....	253	9
10	5	....	3	1	....	....	....	....	9	....	22	16	....	4	2	....	9	1	7	....	1	7	....	....	25	....	4	....	....	....	22	247	10
11	....	....	1	1	....	....	....	....	....	....	1	7	....	1	....	....	1	....	4	....	2	....	....	....	4	....	....	....	1	3	....	217	11
12	....	....	....	1	....	....	....	....	2	....	3	2	....	....	....	....	....	....	6	....	....	....	....	....	2	....	....	1	....	4	....	140	12
13	8	....	....	....	....	....	....	....	1	....	6	1	....	6	....	2	1	....	....	....	1	1	....	....	....	....	....	....	....	2	13	129	13
14	17	6	....	2	1	3	....	....	1	17	3	....	2	7	....	2	12	....	....	....	....	3	....	....	....	2	3	....	....	13	8	329	14
15	14	19	3	10	5	7	....	....	....	1	7	....	10	9	4	4	7	....	1	6	....	2	4	....	1	15	....	26	....	5	13	428	15
16	17	5	1	12	6	8	1	....	2	1	5	1	7	19	5	6	9	....	....	8	2	7	6	1	1	9	2	48	....	3	16	531	16
17	3	4	....	3	1	....	....	....	2	....	4	1	3	2	....	....	2	1	....	2	....	2	....	....	....	....	....	2	16	....	3	6	460	17
18	4	2	....	1	....	....	....	....	1	....	6	....	....	5	1	....	4	....	....	....	....	1	....	....	....	....	....	1	1	....	3	1	379	18
19	....	13	....	3	....	2	....	....	1	1	6	....	....	....	....	....	1	....	....	6	....	2	....	....	....	....	....	2	....	....	2	411	19
20	....	....	....	21	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	165	20
21	1	6	....	5	....	....	....	....	1	....	11	....	1	23	5	2	....	....	....	2	4	2	6	....	1	2	11	2	....	1	2	276	21
22	2	....	28	1	....	1	....	....	3	1	13	13	1	....	7	....	3	....	4	....	9	49	....	....	....	....	....	....	1	1	5	383	22
23	3	....	2	5	....	....	....	....	8	....	24	7	1	9	2	2	26	4	10	....	3	17	2	1	17	3	4	8	....	2	5	294	23
24	....	....	....	....	....	....	....	1	46	....	67	22	....	7	....	....	33	4	3	....	....	....	1	5	....	17	....	....	....	6	3	354	24
25	3	....	....	....	....	1	....	2	3	....	63	....	....	1	....	1	2	7	....	....	....	....	1	....	....	1	1	....	....	8	6	210	25
26	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	20	26
27	5	5	1	6	....	5	1	5	10	....	57	4	1	19	7	10	27	16	3	3	3	9	3	6	8	6	5	8	1	1	17	506	27
28	....	....	....	....	....	....	....	18	6	....	47	....	....	1	....	....	1	23	....	....	....	1	....	....	2	....	1	....	....	....	3	3	476	28
29	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	29
30	307	3	....	3	5	3	....	1	11	1	34	3	1	57	2	2	19	3	....	2	....	1	1	2	2	5	2	2	....	2	11	533	30
31	197	....	....	....	....	....	....	....	....	....	1	....	....	4	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	208	31
32	2	366	1	....	3	1	....	....	....	....	1	1	8	....	....	....	2	....	....	8	....	2	....	1	3	....	9	....	2	6	425	32
33	....	....	51	....	....	....	....	....	....	....	2	....	....	1	....	....	....	....	....	....	2	1	....	....	....	....	....	....	....	....	....	64	33
34	....	....	....	71	....	....	....	....	....	....	1	....	....	....	4	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	80	34
35	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	35
36	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	36
37	....	....	....	35	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	35	37
38	5	16	2	141	10	....	....	....	4	....	20	....	1	71	1	1	1	1	....	....	....	8	....	....	....	6	1	9	....	5	5	462	38
39	....	5	3	123	2	....	1	....	....	....	3	2	4	1	5	2	2	1	1	2	1	4	6	....	....	9	2	9	....	1	1	291	39
40	....	13	....	4	9	67	....	....	....	1	2	....	1	....	....	2	2	....	....	14	....	....	1	....	....	6	1	....	1	1	....	171	40
41	....	6	....	5	2	262	....	....	....	....	1	....	....	....	....	....	1	....	....	9	....	....	....	....	....	....	....	1	4	4	3	334	41
42	....	....	....	....	....	1	....	3	6	....	7	1	....	....	....	....	3	....	1	....	....	....	....	1	....	1	....	....	....	....	....	39	42
43	....	....	....	....	....	....	....	....	1	....	80	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	83	43
44	....	....	....	2	....	....	....	....	1	....	211	....	....	5	....	....	7	....	....	....	....	....	....	....	3	....	2	....	....	....	4	238	44
45	1	1	2	1	....	....	....	3	58	....	246	1	1	6	....	1	3	3	1	....	4	1	9	2	2	4	....	5	....	2	5	397	45
46	....	....	....	....	1	....	1	1	28	....	168	2	....	5	....	....	5	6	....	....	1	1	....	2	2	....	1	1	....	1	3	262	46
47	....	....	....	....	....	3	....	....	7	....	365	....	....	....	....	....	2	....	....	1	1	1	....	....	....	....	....	....	....	....	....	388	47
48	....	....	....	....	....	....	....	....	6	....	178	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	186	48
49	....	....	....	1	....	1	....	....	57	....	332	1	....	....	1	1	5	....	....	....	....	3	4	....	....	....	5	....	....	3	2	421	49
50	....	....	....	....	....	....	....	....	....	....	164	1	....	1	....	....	3	1	....	....	....	....	1	....	....	....	....	....	....	8	....	183	50
51	....	....	....	....	....	....	....	....	....	....	....	69	....	....	....	....	1	....	5	....	....	....	....	....	....	....	....	....	....	....	....	77	51
52	....	....	....	....	....	....	....	....	2	....	3	38	....	....	....	....	....	....	3	....	....	....	....	....	2	....	....	....	....	....	....	49	52
53	....	9	....	....	....	1	....	....	....	....	5	1	20	....	....	1	1	....	....	....	....	....	....	....	....	....	....	....	....	3	2	44	53
54	2	1	....	2	....	1	....	....	8	....	32	....	....	48	1	....	7	....	....	....	1	1	....	....	3	....	....	....	....	....	....	148	54
55	4	2	1	4	....	....	....	....	2	....	5	9	....	153	....	....	12	....	....	1	3	....	3	....	1	....	3	1	....	2	4	253	55
56	3	....	....	....	....	1	....	....	1	....	3	....	....	163	....	....	17	....	....	....	....	....	....	....	2	....	7	....	....	....	1	209	56
57	....	....	1	....	....	....	....	....	....	....	1	1	....	312	....	....	5	....	....	....	....	....	....	....	....	....	....	....	....	1	....	325	57
58	....	....	....	....	....	....	....	....	....	....	2	....	....	....	102	....	....	....	....	....	....	2	....	....	....	1	....	....	....	3	....	170	58
59	....	....	....	....	3	....	....	....	....	....	....	....	....	....	....	150	....	....	....	....	....	....	2	....	....	35	....	....	....	2	4	210	59
60	2	1	....	....	....	....	....	....	49	....	3	....	....	7	....	....	132	....	....	....	....	1	....	....	....	1	1	....	....	3	3	224	60
61	1	4	....	7	....	3	....	....	41	....	25	30	1	24	....	1	305	3	4	2	4	4	6	....	3	2	22	1	....	3	12	573	61
62	1	....	....	1	....	....	....	1	22	....	9	1	....	4	....	....	166	....	1	....	....	....	....	....	....	1	....	....	....	....	....	220	62
63	3	3	8	9	1	3	....	2	26	....	22	32	2	8	1	....	227	2	4	....	6	11	11	....	5	12	5	16	1	1	6	471	63
64	2	1	....	....	....	1	....	....	7	....	15	5	....	4	....	....	38	....	2	....	2	....	....	....	2	....	....	....	....	1	1	94	64
65	....	....	....	....	....	....	....	....	1	....	....	....	....	12	....	....	209	....	....	....	....	1	....	....	1	....	....	....	....	....	....	227	65
66	....	....	....	....	....	....	....	....	2	....	3	2	....	....	....	....	....	....	146	....	....	....	....	....	....	....	....	....	....	1	....	156	66
67	....	1	....	....	....	....	....	....	2	....	5	....	....	....	....	....	....	....	....	23	....	....	....	....	....	1	....	....	....	....	....	40	67
68	1	....	15	3	....	....	....	....	3	1	7	5	....	1	4	....	1	....	....	....	111	13	1	....	3	....	2	....	....	....	....	219	68
69	6	....	5	4	....	....	....	....	....	....	15	15	....	10	2	....	12	1	9	....	10	17	....	....	13	....	2	....	....	....	16	206	69
70	....	....	3	2	....	....	....	....	....	1	1	4	2	....	2	2	....	....	4	....	77	21	....	....	3	....	....	....	....	....	2	181	70
71	....	1	1	....	....	1	....	....	....	....	4	....	7	1	....	1	2	....	....	....	....	209	1	....	....	....	....	1	....	....	2	243	71
72	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	233	....	....	....	....	....	....	....	....	....	233	72
73	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	36	....	....	....	....	....	....	1	2	46	73
74	....	....	....	....	....	....	....	9	3	....	14	....	....	....	....	....	1	1	....	....	....	....	....	72	....	....	....	....	....	....	....	123	74
75	....	....	....	....	....	....	....	....	2	....	15	35	....	6	....	....	5	2	....	....	....	....	....	....	191	....	32	....	....	7	....	306	75
76	1	....	10	....	....	....	....	....	4	....	20	12	....	....	....	....	5	....	10	....	3	1	1	....	123	1	6	....	....	....	....	213	76
77	....	....	....	....	....	....	....	1	3	....	2	....	....	6	....	....	21	....	....	....	....	....	....	....	....	....	72	....	....	....	4	111	77
78	5	2	....	....	1	1	....	....	1	....	3	....	1	3	....	....	....	....	....	1	....	....	....	....	....	....	....	136	....	....	2	165	78
79	8	14	....	1	4	....	....	....	....	....	6	....	1	5	....	....	....	....	....	2	....	....	....	....	....	1	....	177	....	3	2	245	79
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51		

TABLE 3.—*Medical Students Shown by Classes*

NAME OF COLLEGE	Enrolled During 1924-25				
	1st Year	2d Year	3d Year	4th Year	Totals
University of Alabama School of Med.*	48	38	..	..	86
University of Arkansas Medical Dept.	36	48	26	23	133
College of Medical Evangelists	94	41	44	71	250
Stanford University School of Medicine	75	37	30	27	169
University of California Medical School	57	51	55	46	209
University of Colorado School of Med.	51	31	35	31	148
Yale University School of Medicine	46	45	50	45	186
Georgetown University School of Medicine	74	67	46	42	229
George Washington University Med. School	78	73	53	49	253
Howard University School of Medicine	58	49	61	79	247
Emory University School of Medicine	62	39	56	60	217
University of Georgia Medical Dept.	52	36	26	26	140
Chicago Medical School	24	22	37	46	129
Loyola University School of Medicine	118	83	58	70	329
Northwestern University Medical School	113	92	109	114	428
Rush Medical College (Univ. of Chicago)	105	91	186	149	531
University of Illinois College of Medicine	128	98	124	110	460
Indiana University School of Medicine	117	89	85	88	379
State University of Iowa College of Med.	139	108	88	76	411
University of Kansas School of Medicine	51	41	41	32	165
University of Louisville School of Medicine	82	63	68	63	276
Tulane Univ. of Louisiana School of Med.	112	92	90	89	383
Johns Hopkins University Medical Dept.	74	69	73	78	294
University of Maryland School of Medicine and College of Physicians and Surgeons	108	85	78	83	354
Boston University School of Medicine	61	50	49	50	210
College of Physicians and Surgs., Boston †	7	4	5	4	20
Harvard University Medical School	125	121	131	129	506
Tufts College Medical School	138	124	110	104	476
Middlesex College of Med. and Surg.—N.#	..	..	..	..	...
University of Michigan Medical School	136	119	119	159	533
Detroit College of Medicine and Surgery	68	50	39	51	208
University of Minnesota Medical School	116	107	109	93	425
University of Mississippi School of Med.*	29	35	..	..	64
University of Missouri School of Med.*	44	36	..	..	80
Kansas City College of Med. and Surg.—N.#	..	..	..	..	...
Kansas City Univ. of Phys. and Surgs.—N.#	..	..	..	..	...
St. Louis College of Phys. and Surgs.‡	7	5	13	10	35
St. Louis University School of Medicine	147	110	106	100	463
Washington University School of Medicine	71	69	75	76	291
Creighton University College of Medicine	43	52	39	37	171
University of Nebraska College of Med.	91	69	67	107	334
Dartmouth Medical School*	21	18	..	..	39
Albany Medical College	34	15	18	16	83
University of Buffalo Medical Department	72	62	51	53	238
Columbia Univ. College of Phys. & Surgs.	108	98	97	94	397
Cornell University Medical College	82	58	64	58	262
Long Island College Hospital	117	85	90	96	388
New York Homeopathic Medical College and Flower Hospital—H.	77	36	41	32	186
University and Bellevue Hosp. Med. Coll.	119	104	96	102	421
Syracuse University College of Medicine	53	43	42	45	183
Univ. of North Carolina School of Med.*	42	35	..	..	77
Wake Forest College School of Medicine*	22	27	..	..	49
Univ. of North Dakota School of Med.*	26	18	..	..	44
Eclectic Medical College, Cincinnati.—E.	34	36	39	39	148
University of Cincinnati College of Med.	72	61	55	65	253
Western Reserve University School of Med.	78	42	47	42	209
Ohio State University College of Medicine	95	63	75	92	325
University of Oklahoma School of Med.	52	48	41	29	170
University of Oregon Medical School	64	50	51	45	210
Hahnemann Medical College and Hospital of Philadelphia.—H.	73	62	41	48	224
Jefferson Medical College of Philadelphia	158	130	143	142	573
Temple University School of Medicine	60	54	58	48	220
University of Pennsylvania School of Med.	108	96	133	134	471
Woman's Medical College of Pennsylvania	21	17	25	31	94
University of Pittsburgh School of Med.	66	63	49	49	227
Medical College of the State of S. Carolina	42	40	33	41	156
Univ. of South Dakota College of Med.*	23	17	..	..	40
Univ. of Tennessee College of Medicine	66	41	54	58	219
Meharry Medical College	64	58	48	36	206
Vanderbilt University School of Medicine	45	41	52	43	181
Baylor University College of Medicine	112	62	42	27	243
University of Texas School of Medicine	59	52	64	58	233
University of Utah School of Medicine*	23	23	..	..	46
University of Vermont College of Medicine	34	18	28	43	123
Medical College of Virginia	88	73	77	68	306
University of Virginia Dept. of Medicine	70	44	46	53	213
West Virginia University School of Med.*	62	49	..	..	111
University of Wisconsin Medical School	94	71	..	..	165
Marquette University School of Medicine	71	66	55	53	245
Totals for 1925	5,492	4,415	4,136	4,157	18,200
Totals for 1924	5,160	4,441	4,330	3,797	17,728
Totals for 1923	5,102	4,615	3,861	3,322	16,900

E.—Eclectic; H.—Homeopathic; N.—Nondescript.
* Gives only the first two years of the medical course.
† Figures and distribution are approximate.
‡ Figures exact; distribution approximate.
# No students reported for the session of 1924-25.

(Continued from page 585)

than last year. This is the largest number graduating since 1913. The number of graduates from the nonsectarian colleges was 3,856, or 461 more than last year.

TABLE 5.—*Medical College Graduates*

Year	Non-sectarian	Homeopathic	Eclectic	Physio-Med.	Nondescript	Total
1880	2,673	380	188	..	..	3,241
1890	3,853	390	221	..	..	4,464
1900	4,715	413	86	..	..	5,214
1904	5,190	371	146	20	20	5,747
1910	4,113	183	114	16	14	4,440
1915	3,286	195	55	..	..	3,536
1920	2,826	97	30	..	94	3,047
1921	2,969	115	30	..	78	3,192
1922	2,358	64	34	..	73	2,529
1923	2,984	49	16	..	71	3,120
1924	3,395	74	27	..	66	3,562
1925	3,856	80	38	..	..	3,974

The number from the homeopathic colleges was 80, or 6 more than last year, and from the eclectic college there were 38, or 11 more than last year.

GRADUATES HOLDING DEGREES IN ARTS

Of the 3,974 medical graduates, 2,431 (see Table 6) also obtained degrees in arts or science. This was 411 more than last year. There has been a steady increase since 1910, when attention was first called to this item. This year 61.2 per cent. of all graduates held collegiate degrees, as compared with 56.7 per cent. last year and with only 15.3 per cent. in 1910. This increase is what was expected under the general adoption by medical schools of the entrance requirement of two years of college work. Of the 3,856 nonsectarian school graduates, 2,408, or 62.4 per cent., were reported to have baccalaureate degrees; of the 80 homeopathic graduates, 21, or 26.2 per cent., and of the 38 eclectic graduates, 2, or 5.3 per cent. During the last eight years only 2

TABLE 6.—*Medical Graduates with Liberal Arts Degrees*

Year	Nonsectarian			Homeopathic			Eclectic			Totals		
	Graduates	A.B., B.S.	Per Cent.	Graduates	A.B., B.S.	Per Cent.	Graduates	A.B., B.S.	Per Cent.	Graduates	A.B., B.S.	Per Cent.
1910	4,113	664	16.1	183	13	7.1	114	3	2.6	4,440	680	15.3
1915	3,286	839	25.5	195	16	8.2	55	3	5.5	3,536	858	24.3
1920	2,826	1,307	46.2	97	11	11.3	30	3	10.0	3,043	1,321	43.5
1921	2,969	1,447	48.2	115	33	28.7	30	...	...	3,192	1,465	46.0
1922	2,358	1,440	61.1	64	13	20.3	34	2	5.9	2,529	1,455	57.5
1923	2,984	1,770	59.3	49	13	26.5	16	3	18.7	3,120	1,787	57.3
1924	3,395	1,991	58.6	74	27	36.5	27	2	7.4	3,562	2,020	56.7
1925	3,856	2,408	62.4	80	21	26.2	38	2	5.3	3,974	2,431	61.2

Note.—Only two graduates of nondescript colleges were reported to have collegiate degrees during the last eight years.

graduates of the nondescript colleges have been reported as holding a bachelor's degree in arts or science. As noted in Table 10, of the 2,431 graduates holding baccalaureate degrees, 321—the largest number—came from Illinois medical colleges. New York reported 279, Pennsylvania reported 224, Massachusetts reported 140, and Ohio reported 139. All the better medical schools are now requiring two or more years of college work for admission, which brings more students in reach of the combined course for the B.S. and M.D. degrees.

WOMEN IN MEDICINE

During the last year there were 910 women studying medicine, or 44 less than last year. The percentage of women to all medical students this year is 5. There were 204 women graduates this year, 10 less than last year. Of all the women matriculants, 94 were in attendance at and 30 graduated from one medical college for women, while 816 (88.5 per cent.) were matriculated in, and 174 (85.3 per cent.) graduated from the coeducational colleges.

NUMBER OF COLLEGES

The numbers of medical colleges existing in certain years since 1850 are shown in Table 7. Since 1920 this number has gradually decreased from 85 until last year when the lowest number, 79, was reached. This year, however, the new medical school of the University of Rochester, New York, is open to receive medical students. This brings the number back to 80.

TABLE 7.—*Medical Colleges*

Year	Non-sectarian	Homeopathic	Eclectic	Physio-Med.	Nondescript	Total
1850	44	3	4	1	..	52
1860	53	6	4	2	..	65
1870	60	8	5	2	..	75
1880	76	14	8	2	..	100
1890	106	16	9	2	..	133
1900	126	22	9	2	1	160
1906	130	19	8	3	2	162
1910	109	12	8	1	1	131
1915	83	9	4	..	..	96
1920	76	5	1	..	3	85
1921	74	5	1	..	3	83
1922	74	3	1	..	3	81
1923	74	2	1	..	3	80
1924	73	2	1	..	3	79
1925	74	2	1	..	3	80

Of the 80 colleges, 74 are nonsectarian (regular), 2 are homeopathic, 1 is eclectic and 3 are nondescript. Two of these nondescript colleges, the Kansas City University of Physicians and Surgeons, and the Middlesex College of Medicine and Surgery, are intimately related to osteopathy or give liberal advanced standing to students of osteopathic colleges. The third, the Kansas City College of Medicine and Surgery, has claimed to be eclectic, but has been disowned by the National Eclectic Medical Association. There remain two so-called "regular" medical schools which, like the three just named, are of Class C grade.

The Kansas City College of Medicine and Surgery and the St. Louis College of Physicians and Surgeons and their deans were involved in the Missouri diploma-mill ring which was exposed in October, 1923. They are now undergoing a rigorous legal investigation conducted by the Missouri State Board of Health. The five Class C colleges, because of their deficiency in the essentials for teaching, are reported as not recognized by the licensing boards of more than forty states. Whether the diplomas of these schools are obtained by actual attendance, therefore, or whether they are purchased outright, their holders are not eligible to obtain licenses in any but a few states, chiefly Arkansas and Connecticut. When these few states secure adequate practice laws, the diplomas of these schools will cease to have any value.

LENGTH OF TERMS

Since twenty-five years ago (see Table 8), there has been a decided lengthening of college terms. This has

TABLE 8.—*College Terms*

	23 to 26 weeks		27 to 28 weeks		29 to 30 weeks		31 to 32 weeks		33 to 34 weeks		35 to 36 weeks		Over 36 weeks	
Year	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1901	58	36.5	42	26.4	8	5.0	26	16.4	4	2.5	18	11.3	3	1.9
1905	15	9.4	35	21.8	12	7.5	44	27.5	13	8.1	28	23.3	3	1.9
1910	2	1.5	8	6.0	19	14.3	42	31.5	30	22.6	30	22.6	2	1.5
1915	..	...	1	1.0	5	5.3	22	23.2	36	37.9	30	31.6	1	1.0
1920	..	...	..	...	1	1.2	10	11.8	38	44.7	29	34.1	..	...
1921	..	...	..	...	..	...	11	13.1	39	46.4	28	33.3	..	...
1922	..	...	..	...	..	...	10	13.1	43	56.6	23	30.3	..	...
1923	..	...	..	...	..	...	6	7.5	48	60.0	22	25.0	..	...
1924	..	...	..	...	..	...	6	7.6	44	55.7	23	29.0	..	...
1925*	..	...	..	...	..	...	6	7.6	35	43.8	33	41.2	1	1.2

* Information not furnished by five Class C colleges.

reference to the weeks of actual work exclusive of holidays. Prior to 1905 the majority of colleges had sessions of twenty-eight weeks or less. Since then, however, colleges have gradually lengthened their sessions. For ten years no college has had sessions shorter than twenty-nine weeks, and for five years the shortest session reported has been thirty-one weeks. This year sessions of from thirty-three to thirty-six weeks were reported by 67, or 83.7 per cent., of all colleges. The one medical school which reported sessions longer than 36 weeks is a night school.

TUITION AND OTHER FEES

In Table 1, on pages 586, 587, are given the amounts charged by the various medical colleges per annum for tuition, matriculation, laboratory and graduation fees for each student. In Table 9, the 80 colleges have been grouped according to the amount of fees charged and according to their classification by the Council on Medical Education and Hospitals. Twelve colleges charge

TABLE 9.—*College Fees—1925*

	Class A	Class B	Class C	Per Cent.	Total
$ 50 or less	..	..	..	...	..
50 to 100	6	..	..	7.5	6
100 to 150	5	..	1	7.5	6
150 to 200	18	..	2	25.0	20
200 to 250	9	2	2	16.3	13
250 to 300	12	..	1	16.2	13
300 to 350	18	1	..	23.7	19
Above 350	3	..	..	3.8	3
Totals	71	3	6	100.0	80

Average fee per student in all colleges, $256.

fees of $150 or less per year; thirty-three charge from $150 to $250; thirty-two from $250 to $350, and three charge more than $350. Of the twelve colleges charging $150 or less, eleven are listed among Class A (acceptable) colleges [3] by the Council on Medical Education. Among these are the schools of medicine of several state universities for residents of those states. In contrast, five of the colleges listed by the Council

3. See classification in Table 1, pages 586, 587.

in Class C charge fees of $150 to $350 per year even though the diplomas from these colleges are reported as not recognized by from forty-two to forty-eight state licensing boards.[4]

COLLEGE FEES DURING FIFTEEN YEARS

As shown in Table 10, tuition fees in medical schools have been gradually increased during the last fifteen years. From 1910 to 1914, the majority of medical schools were charging fees of $150 or less. From 1914 to 1922 the majority were charging fees of $200 or less, while since 1922 the majority includes several medical schools charging more than $200. The number of medical schools charging more than $200 increased from 2.3 in 1910 to 56.2 in 1925. The average fees charged per student by all colleges in 1910 was $118; in 1915 it had increased to $145; in 1920 to $177 and in 1925 to $236. The fees in the present year, on the average, therefore, are just twice as large as in 1910. In 1910 there were still several medical schools which were paying all expenses or making a slight profit from students' fees. At present, however, the colleges are expending in the instruction of each student from two to several times as much as he pays in fees. This is made possible because of state aid or private endowment. No medical college in this period of scientific progress can maintain the laboratories and pay the essential instructors and properly teach modern medicine on the income received alone from students' fees.

As the cost of conducting medical schools has increased, there has also been an increase—and properly so—in the fees charged for tuition. A large provision has been made for scholarships and loan funds (see page 594) for the benefit of deserving students who are financially poor. Nevertheless, there is need for more such scholarships. Scholarships and loan funds are particularly important now because the medical curriculum has become so severe that students cannot spare the time to earn money during their attendance at the medical school. A mere lack of funds should not be permitted to prevent any exceptionally qualified student from becoming a physician.

4. See J. A. M. A. **84**: 1348 (May 2) 1925, Table D.

TABLE 10.—*Increase in Medical College Fees During Fifteen Years.*

	Showing for each Year the Number and Percentage of Colleges Requiring																
	$50 or Less		$50 to $100		$100 to $150		$150 to $200		$200 to $250		$250 to $300		$300 to $350		Above $350		Total
Year	No.	%	No	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	Colleges
1910	7	5.3	39	29.3	62	46.6	22	16.5	2	1.5	1	0.8	..	....	..	....	133
1911	2	1.7	33	27.5	54	45.0	27	22.5	4	3.3	..	....	..	....	..	....	120
1912	2	1.7	17	14.7	61	52.5	32	27.6	3	2.6	1	0.9	..	....	..	....	116
1913	3	2.8	20	18.9	43	40.6	34	32.1	5	4.7	1	0.9	..	....	..	....	106
1914	5	4.9	11	10.8	44	43.1	35	34.3	6	5.9	1	1.0	..	....	..	....	102
1915	6	6.4	10	10.6	31	33.0	38	40.5	7	7.4	2	2.1	..	....	..	....	94
1916	6	6.5	13	14.0	23	24.7	41	44.1	8	8.6	2	2.1	..	....	..	....	93
1917	5	5.3	11	11.6	29	30.5	39	41.0	7	7.4	4	4.2	..	....	..	....	95
1918	5	5.6	11	12.4	22	24.7	35	39.3	12	13.5	4	4.5	..	....	..	....	89
1919	5	5.8	9	10.6	14	16.5	35	41.2	18	21.2	4	4.7	..	....	..	....	85
1920	3	3.5	9	10.5	19	22.3	27	32.0	19	22.3	4	4.7	3	3.5	1	1.2	85
1921	3	3.6	7	8.4	15	18.2	25	30.1	18	21.7	7	8.4	7	8.4	1	1.2	83
1922	3	3.7	7	8.6	13	16.1	19	23.5	19	23.5	9	11.1	10	12.3	1	1.2	81
1923	2	2.5	7	8.7	6	7.5	22	27.5	18	22.5	11	13.8	13	16.3	1	1.2	80
1924	1	1.3	5	6.3	8	10.1	21	26.6	14	17.7	14	17.7	13	16.5	3	3.8	79
1925	—	...	6	7.5	6	7.5	20	25.0	13	16.3	13	16.2	19	23.7	3	3.8	80

COLLEGES, STUDENTS AND GRADUATES BY STATES

Since 1919, New York has had eight medical colleges—the largest number—(see Table 11) all but one of which are in Class A. This year another is added with the opening of the new medical school of the University of Rochester. Missouri and Pennsylvania have six colleges each and Illinois and Massachusetts have five each. Of Class C colleges, however, Missouri has three, Massachusetts two and Illinois one. These Class C colleges exist because the licensing boards in certain states do not have or do not exert the power to refuse to examine their graduates.[4] New York had the largest number of students enrolled, 2,158, followed by Illinois with 1,877, Pennsylvania with 1,809 and Massachusetts with 1,212. New York leads also in the number of graduates, having reported 491,

TABLE 11.—*Medical Colleges, Students and Graduates by States*

	Colleges		Students		Graduates		Grads. with A.B. or B.S.
State	Classes A and B	C	Men	Women	Men	Women	
Alabama	1	..	84	2	.....	..	.....
Arkansas	1	..	123	6	23	..	6
California	3	..	548	80	129	15	130
Colorado	1	..	134	14	27	3	8
Connecticut	1	..	181	5	42	3	40
District of Columbia	3	..	715	14	155	5	87
Georgia	2	..	353	4	85	..	48
Illinois	4	1	1,767	110	372	16	321
Indiana	1	..	392	17	80	8	86
Iowa	1	..	401	10	74	2	55
Kansas	1	..	153	10	32	..	22
Kentucky	1	..	271	5	61	2	24
Louisiana	1	..	373	10	85	2	48
Maryland	2	..	603	45	150	11	105
Massachusetts	3	2	1,164	48	270	14	140
Michigan	2	..	708	33	176	9	83
Minnesota	1	..	394	31	97	8	104
Mississippi	1	..	64	...	.....	...	.....
Missouri	3	3	856	13	178	1	129
Nebraska	2	..	486	19	136	4	109
New Hampshire	1	..	39	...	.....	...	.....
New York	9	..	1,997	161	449	42	279
North Carolina	2	..	124	2	.....	...	.....
North Dakota	1	..	43	1	.....	...	.....
Ohio	4	..	806	39	226	6	139
Oklahoma	1	..	158	12	28	1	28
Oregon	1	..	198	12	41	4	21
Pennsylvania	6	..	1,675	134	406	40	224
South Carolina	1	..	152	4	35	...	13
South Dakota	1	..	39	1	.....	...	.....
Tennessee	3	..	602	4	135	...	56
Texas	2	..	453	23	83	1	34
Utah	1	..	46	...	.....	...	.....
Vermont	1	..	115	8	42	1	12
Virginia	2	..	503	16	111	6	42
West Virginia	1	..	109	2	.....	...	.....
Wisconsin	2	..	390	20	42	...	38
Totals	74	6	17,290	910	3,770	204	2,431
			18,200		3,974		

followed by Pennsylvania with 446, Illinois with 388, Massachusetts with 284 and Ohio with 232.

QUALIFICATIONS OF STUDENTS AND GRADUATES

Table 12 shows for each fifth year the students and graduates grouped according to their classification by the Council on Medical Education and Hospitals. During the last thirteen years the percentage of students enrolled in Class A colleges has increased from 65.4 to 96.2 and the total number of students in attendance at these schools has increased from 11,122 to 17,497. Both the numbers and the percentages of students enrolled in Class B and Class C colleges have decreased. The percentage of students in Class B colleges dropped from 24.4 to 3.0 and in Class C colleges from 10.2 to 0.8. Of graduates, also, the percentage in Class A colleges has increased while it has decreased in Class B and Class C colleges. Such reductions as there have been in the total numbers of students and graduates, therefore, have been at the expense of the lower grade colleges.

TABLE 12.—*Students and Graduates According to Classification*

	Students						Graduates					
	Colleges Rated in Class						Colleges Rated in Class					
Year	A	%	B	%	C	%	A	%	B	%	C	%
1913	11,122	65.4	4,158	24.4	1,735	10.2	2,539	63.8	1,050	26.4	392	9.8
1915	11,314	76.0	2,668	17.9	909	6.1	2,629	74.4	688	19.4	219	6.2
1920	12,230	89.2	680	4.8	798	6.0	2,660	88.4	152	5.0	205	6.6
1925	17,497	96.2	554	3.0	149	0.8	3,802	96.2	118	3.0	4	0.8

HINTS TO PROSPECTIVE MEDICAL STUDENTS

The selection of a medical school is a matter of extreme importance and should be considered with special care. The student who is contemplating the study of medicine, therefore, should note with care the character and classification of the medical school in which he is planning to enroll,[5] and more particularly whether it is recognized by all state boards. He should note also the standards for admission, which are given in the descriptive statements of the colleges appearing on pages 600 to 609. A careful review of the material published this week will be of greater service to such students.

GRADUATE MEDICAL EDUCATION

The facilities for graduate medical instruction in the United States are set forth on pages 597-600. A list of graduate medical schools which have been approved by the Council on Medical Education and Hospitals is published alphabetically. There is also a series of 45 subjects under each of which is given a list of the institutions in which approved courses of instruction are being given. Other subjects will be added from time to time. Other institutions will be added to the list as rapidly as on investigation they are found worthy of approval. There are now 42 graduate medical schools on the approved list and 30 hospitals in which approved residencies in certain specialties can be obtained.

By the publication each year of these data, it is hoped that opportunities for advanced instruction in both graduate and undergraduate medical schools may be enlarged and that a constantly increasing use may be made of the abundance of clinical material in this country. The majority of undergraduate medical schools are now equal to those in other leading countries, but increased opportunities should be developed where physicians can secure high grade instruction in graduate medical work.

NEGRO MEDICAL STUDENTS AND GRADUATES

Owing to the special interest that has been shown recently in regard to the numbers of negro medical students and graduates enrolled in the various medical schools, the tabulation published herein has been made of those reported as having been enrolled in medical schools during the sessions of 1923-24 and 1924-25.

TABLE 13.—*Negro Medical Students*

	Session of 1923-24		Session of 1924-25	
Colleges	Students	Graduates	Students	Graduates
College of Medical Evangelists	1	1	1	..
University of California Medical School	1	1	1	..
Howard University School of Medicine	228	26	245	71
Northwestern University Medical School	12	3	6	1
Rush Medical College	5	4	6	2
Chicago Medical School	..	..	19	5
Indiana University School of Medicine	2	2	..	..
Boston University School of Medicine	2	1	3	1
Harvard University Medical School	4	..	4	..
Tufts College Medical School	..	..	2	1
University of Michigan Medical School	19	5	4	1
University of Nebraska College of Medicine	1	..	1	..
Columbia University College of Phys. and Surgs.	..	..	2	..
Syracuse University College of Medicine	2	..	1	1
Long Island College Hospital	..	..	1	..
University of Buffalo Medical Department	2	2	..	..
Western Reserve University School of Medicine	..	..	1	1
Ohio State University College of Medicine	6	1	10	2
Jefferson Medical College	1	..	..	..
Temple University School of Medicine	6	..	7	4
Woman's Medical College of Philadelphia	5	..	3	2
Meharry Medical College	172	38	206	34
University of Vermont College of Medicine	2	1	..	..
McGill University Faculty of Medicine	..	..	20	..
Totals	471	85	543	126

From this it will be seen that in the session ending in 1924 there were 471 negro students enrolled, and of these, 85 were graduated. During the last session, however, that ending in 1925, there were 543 negro students enrolled (including 20 in the McGill University Faculty of Medicine) and of these 126 were graduated.

PROPORTION OF PHYSICIANS TO POPULATION

A study of Table 14 is interesting in that it shows the states which are best supplied with physicians. The states which have the lowest proportions of physicians in their order are North Dakota with one physician to every 1,386 people; South Carolina, one to 1,325; North Carolina, one to 1,178; Montana, one to 1,164; Idaho, one to 1,130; South Dakota, one to 1,085; Alabama, one to 1,061; Mississippi, one to 1,052, and Arizona, one to 1,008. In the United States as a whole there is now one physician to every 753 people as compared with one to 724 in 1923; one

5. For useful information regarding all medical schools, a pamphlet entitled "Choice of a Medical School" will be sent to any address on receipt of 10 cents.—ED.

to 720 in 1919, and one to 640 in 1913. In 1921 statistics showed that, next to the United States, Great Britain had the largest supply of physicians, or one to every 1,087. In 1910, in Mr. Flexner's report, Great Britain is accredited with one physician to every 1,500 people, while in central European countries the

TABLE 14.—*Proportion of Physicians to Population*

State	Population, 1923 Estimate	Total No. Physicians, 1925	People to Each Physician, 1925
Alabama	2,423,912	2,284	1,061
Arizona	380,900	379	1,008
Arkansas	1,816,287	2,212	821
California	3,805,153	8,303	455
Colorado	999,539	1,827	539
Connecticut	1,476,483	1,884	784
Delaware	230,460	256	900
District of Columbia	*437,571	1,813	242
Florida	1,046,287	1,452	721
Georgia	2,999,196	3,122	961
Idaho	470,179	416	1,130
Illinois	6,790,524	10,743	632
Indiana	3,013,134	4,251	709
Iowa	2,468,643	3,378	731
Kansas	1,797,489	2,384	760
Kentucky	2,462,317	3,041	810
Louisiana	1,849,746	1,991	929
Maine	777,559	1,037	750
Maryland	1,505,296	2,313	651
Massachusetts	4,077,545	6,187	661
Michigan	3,977,821	4,837	822
Minnesota	2,499,396	2,823	885
Mississippi	*1,790,618	1,702	1,052
Missouri	3,442,971	5,806	593
Montana	611,199	525	1,164
Nebraska	1,333,922	1,869	714
Nevada	*77,407	129	600
New Hampshire	447,592	601	745
New Jersey	3,578,963	3,567	947
New Mexico	372,265	365	1,020
New York	10,845,661	17,671	614
North Carolina	2,686,325	2,281	1,178
North Dakota	672,041	495	1,386
Ohio	6,177,122	8,113	761
Oklahoma	2,162,979	2,524	857
Oregon	823,270	1,176	700
Pennsylvania	9,100,336	11,140	817
Rhode Island	639,672	771	813
South Carolina	1,744,408	1,317	1,325
South Dakota	655,532	604	1,085
Tennessee	2,393,077	3,128	768
Texas	4,399,630	6,063	815
Utah	476,812	505	944
Vermont	*352,428	537	656
Virginia	2,398,441	2,534	947
Washington	1,453,998	1,781	806
West Virginia	1,561,156	1,753	885
Wisconsin	2,739,574	2,826	969
Wyoming	211,864	255	831
Total	110,663,502	147,010	753

* Population, Jan. 1, 1920; no estimate made.

proportion was from one to 2,000 to one to 2,500 people. In the United States the fact that numbers of graduates are again rapidly on the increase indicates that there will be no serious shortage in the supply of physicians.

HOSPITAL INTERN YEAR

Medical Colleges

Twelve medical colleges have adopted the requirements of a fifth year to be spent by the student as an intern in an approved hospital or in other acceptable clinical work before the M.D. degree will be granted. These colleges and the years when the requirement became effective for matriculants and graduates are as follows:

	Affects Matriculants	Affects Graduates
University of Minnesota Medical School	1910-11	1915
Stanford University School of Medicine	1914-15	1919
Rush Medical College (University of Chicago)	1914-15	1919
University of California Medical School	1914-15	1919
Marquette University School of Medicine	1915-16	1920
Northwestern University Medical School	1915-16	1920
University of Illinois College of Medicine	1917-18	1922
Loyola University School of Medicine	1917-18	1922
Detroit College of Medicine and Surgery	1919-20	1924
University of Nebraska College of Medicine	1922-23	1926
University of Cincinnati College of Medicine	1922-23	1926
College of Medical Evangelists	1922-23	1927

Licensing Boards

The hospital intern year has been adopted as an essential qualification for the license to practice in twelve states, becoming effective in different years, as follows:

State Board of	Affects Student Matriculants	Affects All Applicants
Pennsylvania	1909-10	1914
New Jersey	1911-12	1916
Alaska	1912-13	1917
Rhode Island	1913-14	1917
North Dakota	1913-14	1918
Washington	1914-15	1919
Illinois	1917-18	1922
Michigan	1917-18	1922
Iowa	1918-19	1923
South Dakota	1920-21	1925
Utah	1921-22	1926
Delaware	1923-24	1928

The requirements both by medical schools and by state boards are overwhelmingly if not unanimously for the rotation service in general hospitals.

Scholarships and Loan Fund

As evidence that provision is being made for worthy students, regardless of their financial status, 576 scholarships are reported this year in the following forty-six medical schools:

University of Alabama School of Medicine, Tuscaloosa	67
Stanford University Medical School,* San Francisco	2
University of California Medical School,* San Francisco	6
University of Colorado School of Medicine,* Denver	1
Yale University School of Medicine,* New Haven	2
Georgetown University School of Medicine, Washington	2
Emory University Medical School,* Atlanta	11
Northwestern University School of Medicine,* Chicago	1
Rush Medical College, Chicago	7
University of Illinois College of Medicine, Chicago	84
Indiana University School of Medicine,* Bloomington and Indianapolis	12
State University of Iowa College of Medicine, Iowa City	1
University of Kansas School of Medicine,* Kansas City	1
Johns Hopkins University Medical Department, Baltimore	6
University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore	8
Boston University School of Medicine,* Boston	16
Medical School of Harvard University,* Boston	50
Detroit College of Medicine and Surgery, Detroit	8
University of Missouri School of Medicine,* Columbia	10
Washington University School of Medicine, St. Louis	2
University of Nebraska College of Medicine,* Omaha	6
Dartmouth Medical School,* Hanover, N. H	2
Albany Medical College, Albany, N. Y	11
University of Buffalo Department of Medicine,* Buffalo	1
Columbia University College of Physicians and Surgeons, New York*	70
Cornell University Medical College,* New York	3
Syracuse University College of Medicine, Syracuse	1
University and Bellevue Hospital Medical College,* New York	1
University of North Carolina School of Medicine, Chapel Hill	1
University of Cincinnati College of Medicine,* Cincinnati	12
University of Oregon Department of Medicine,* Portland	5
Hahnemann Medical College and Hospital of Philadelphia*	12
Jefferson Medical College, Philadelphia	3
Temple University Department of Medicine, Philadelphia	3
University of Pennsylvania School of Medicine,* Philadelphia	12+
University of Pittsburgh School of Medicine, Pittsburgh	3
Woman's Medical College of Pennsylvania,* Philadelphia	30
Medical College of the State of South Carolina, Charleston	8
University of Tennessee College of Medicine, Memphis	15
Vanderbilt University Medical Department, Nashville, Tenn	4
University of Texas Department of Medicine,* Galveston	2
University of Vermont Medical School*	55
Medical College of Virginia, Richmond	10
University of Virginia Department of Medicine,* Charlottesville	2
West Virginia University School of Medicine,* Morgantown	1
University of Wisconsin Medical School, Madison	6
Total in 46 medical schools	576

* Have loan funds also.

Loan Funds

Besides the twenty-six colleges marked by an asterisk (*) in the above list which have loan funds for deserving but needy students, such funds are available also at the five following medical schools:

College of Medical Evangelists, Loma Linda, Calif.
Tulane University of Louisiana School of Medicine, New Orleans.
University of Michigan Medical School, Ann Arbor.
Wake Forest College School of Medicine, Wake Forest, N. C.
University of North Dakota School of Medicine, University.

GRADUATE MEDICAL EDUCATION IN THE UNITED STATES

Revised to August 18, 1925

The following general statement will make more clear the position of the Council on Medical Education and Hospitals in relation to graduate medical instruction. The Council's chief desire is to cooperate with the various postgraduate teaching institutions and hospitals providing residences in the specialties in bringing about certain improvements, in accordance with the principles concerning graduate medical education which were adopted by the House of Delegates of the American Medical Association in June, 1923.

The Council is not attempting to prevent any physician from getting any course he needs, nor is it trying to assume authority over any individual or any graduate teaching institution, or to prevent them from offering to physicians any courses they see fit. If an institution desires to have the Council's endorsement of its work or of any particular course offered, however, it should not be unwilling to comply with the principles which have been laid down and which are believed to be fair and just.

The principles aim to provide more abundant facilities for the training of general practitioners; the fact being recognized that any course of instruction which will improve the physician's knowledge or skill will be of service, both to him and to his patients. At the same time, however, it is believed that he will secure much better instruction if the courses are arranged in a graded series whereby he can progress from one course to another and know that he is continually advancing in his work instead of being forced, as heretofore, to make a selection from a maze of unstandardized short courses, which may or may not provide him with the instruction he most needs.

In regard to courses leading to the specialties in graduate schools and in hospitals, the council is withholding its approval from the present-day arrangements whereby physicians are being permitted to rush into some specialty without having developed the knowledge and skill which would justify such action. Here again, there is no attempt to prevent any physician from taking any course he desires, nor to hinder an individual or institution from offering instruction in any course. The Council merely asks that such courses be given in accordance with certain principles if they are to have the Council's endorsement.

The principles adopted in regard to courses for the training of specialists are being applied chiefly to certain hospitals and to groups of courses which, to a deplorable extent, are being used as short-cuts to the practice of specialties by many who cannot or do not obtain therefrom the proficiency which should be required. Neither the American Medical Association nor any other body of self-respecting people would endorse such a procedure; nor should they appear to do so by failing to do what they can to prevent it. The Council is withholding its approval from certain courses until adequate safeguards against their abuse have been established by the institutions offering such courses. These safeguards can be established without much difficulty by the graduate medical schools, (*a*) by having their courses properly graded; (*b*) by ascertaining the educational and professional qualifications of the physician-students, and (*c*) by admitting to any course only those students who are found to possess the essential prerequisite work or training. Such grading is, indeed, more essential for graduate students than for undergraduates, since the qualifications of the former now vary to a greater extent.

The courses which are most commonly utilized as short cuts are the operative courses such as operative surgery on the dog or the cadaver and like courses in orthopedic surgery, urology, gynecology, ophthalmology and otolaryngology.

As now given, most of these courses fail to provide even the minimum requisite knowledge of diagnostic, laboratory or operative technic, much less the essential review courses in the preclinical sciences; the needed experience in the examination of patients; the diagnosis of the diseases covered by the specialty, and particularly the recognition of conditions which require operative treatment. Furthermore, some of the courses offered are independent of and make no provision for residences or advanced internships where the graduate student can subsequently develop skill in applying his special knowledge in the care and treatment of patients while still under the supervision of a recognized expert in the particular specialty before he begins his operative procedures in his own independent practice. These principles apply particularly to the surgical specialties and to the application of operative procedures, since a surgical operation, on the eye, for example, may needlessly handicap a patient for the balance of his lifetime. The portion of the principles regarding graduate medical schools which bear on this particular matter is given in paragraph 4, on page 596.

In the same paragraph, it is provided also that the courses of instruction should be "so graded that the student, if he desires, can obtain progressive work in a continuous course of two or three years," or, if he prefers, he can secure the same work in a series of shorter courses "so graded that, in effect, they would be segments of and, in total, the time and educational equivalent of the longer courses."

Where courses leading to specialization in any of the subjects enumerated are properly graded, and where the graduate school carefully investigates the previous training of the individual physician before assigning him to courses of instruction, it will not matter so much whether the student is merely preparing himself for better work in his general practice, or whether he is intending later to practice as a specialist.

The investigations during the last few years of the various postgraduate medical schools have revealed a deplorable lack of courses to which any standardizing body could give an unqualified approval because they are not graded and are not administered in accordance with any definite principles or standards. It is gratifying to note that the majority of the postgraduate teaching institutions have already abandoned the giving of diploma-like certificates to students taking short courses.

It is the Council's desire to cooperate most heartily with any institution in an effort to develop their graduate teaching so as to provide in the United States more well organized and well administered courses of graduate medical instruction. This is clearly the greatest need in medical education today.

PRINCIPLES REGARDING GRADUATE OR POSTGRADUATE MEDICAL SCHOOLS

The following principles were adopted by the House of Delegates in June, 1923, as a basis for the grading of graduate medical schools:

1. *Admission Requirements.*—The minimum admission requirement for those wishing to prepare themselves for the practice of a specialty should be graduation from an acceptable (Class A) medical college and completion of at least one year's internship in an approved hospital, or the experience gained by at least five years spent in the active practice of medicine. In the case of reputable physicians who desire to improve themselves for general practice, lenient admission requirements are justified. Courses for *general practitioners* should be open to all physicians who have received the degree of Bachelor or Doctor of Medicine from medical colleges considered acceptable by this Council, or to reputable physicians who were licensed in certain states before graduation was required.

2. *Records.*—Records should be kept by each institution showing (*a*) the preliminary and professional entrance qualifications of every student, which should be verified by authentic or documentary evidence; (*b*) previous attendance at graduate courses and grades obtained; (*c*) the subjects for which he is enrolled; (*d*) evidence of his faithful attendance at his work; (*e*) evidence of the student's proficiency as demonstrated by

his routine or research work, examinations or otherwise, and (*f*) whether an advanced degree or certificate was granted.

Records, indeed, are just as essential in a graduate as in an undergraduate school. Graduate physicians, indeed, will vary more in their preliminary and professional qualifications than the present-day undergraduates, and a knowledge of these qualifications is essential to decide the character and grade of the work to which the graduate student should be assigned. Again, a knowledge of his proficiency in the work to which he is assigned is essential to know whether he is worthy of advancement, or whether he can be trusted with responsibility for the diagnosis and treatment of patients who may be assigned to his care. Especially are such records important for those preparing for the practice of a specialty.

3. *Supervision.*—There should be careful and intelligent supervision of the entire school by a dean or other executive officer who holds, and has sufficient authority to carry out, fair ideals as determined by the present day needs of graduate medical education.

4. *Curriculum and Grading of Instruction Offered.*—The graduate school should have its various courses of instruction so graded that the student, if he desires, can obtain progressive work in a continuous course of two or three years,[1] as may be necessary to prepare him satisfactorily for the practice of a chosen specialty. If it is found that at some previous time the student has satisfactorily completed certain portions of the work, he might be given advanced standing and thereby enabled to complete his preparation in a shorter time.

Where short courses are offered in any of the clinical specialties, these also should be *so graded that, in effect, they would be segments of and, in total, the time and educational equivalent of the longer courses.* These segments might be taken at different times, but would ultimately lead the student to the same objective. With the exception of the courses in general medicine, all short courses should fit in with a scheme, the ultimate aim of which would be a complete and satisfactory training in the specialty for which the graduate school provides instruction. Any institution offering work in any specialty, therefore, should provide either itself or by affiliation with other graduate schools (*a*) review courses in anatomy, pathology and the other basic preclinical sciences which apply to the respective specialties; (*b*) clinics in which students can have the opportunity personally to examine patients in hospital wards and outpatient departments and in which various therapeutic and operative procedures can be demonstrated; (*c*) courses of operative and laboratory technic; and (*d*)—to be assigned only when the student's previous training will warrant—assistantships in which, under the supervision of a physician who is recognized as an expert in the particular specialty, he can gradually assume responsibility in the diagnosis and therapeutic or operative treatment of the sick. Opportunity should be provided also for research work in the chosen specialty bearing on both the fundamental sciences and clinical fields. With courses so graded, no student should be admitted to any advanced short course unless, on careful investigation, he is found to possess the knowledge and skill, such as are obtainable in the other prerequisite courses.

5. *Teachers.*—The graduate medical school should be supplied with a corps of teachers well trained in and responsible for the work in all subjects in which opportunities for study are announced. This should include teachers for essential review or advanced work in the preclinical sciences, as well as those who have in charge work in clinical subjects. The teaching staff should be made up of graduates of or teachers in Class A medical colleges or other high grade educational institutions. The faculty should be organized under the various teaching departments in which work is offered, and a competent teacher should be at the head of each department.

6. *Laboratories.*—The school should possess well-equipped laboratories to provide proper review or advanced work in both laboratory and clinical subjects essential for the specialty or specialties in which opportunities are offered. There should also be an adequate supply of special apparatus, such as stereopticons, balopticons, photomicrographic outfits and roentgen-ray equipment.

7. *Library and Museum Facilities.*—All graduate work in medicine demands intensive reading in the field studied. Library facilities in most of the graduate schools are either totally lacking or wofully inadequate. In some instances, however, this lack is provided for by good medical libraries attached to other nearby institutions. The graduate school, therefore, should have a medical library which should include an ample supply of modern text and reference books, files of bound medical periodicals, and the essential indexes. It should also receive regularly thirty or more standard medical periodicals, the latest numbers of which should be on tables or in racks where they are easily accessible to the graduate students.

The school should be supplied with adequate museum facilities, including anatomic and pathologic specimens.

8. *Hospitals and Dispensaries.*—Graduate courses in clinical subjects cannot be presented profitably in lectures only. There are objections to allowing short term graduate medical students to assume responsibility for the diagnosis and treatment of patients; nevertheless, ample clinical material must be available for demonstrations for short course students and for the personal use of properly qualified students in the longer term. The graduate medical school, therefore, should have a teaching hospital with a daily average of 200 or more patients, and an outpatient clinic with an average of 100 or more patients each day; or, if teaching is limited to a single specialty, a hospital of not less than twenty-five patients daily, and an outpatient clinic of at least fifty patients daily. In brief, it should have sufficient clinical material to enable it to provide satisfactory clinical study in the specialty or specialties for which opportunities are offered. In connection with the courses for general practitioners, ample clinical material should be available so that the student may be given the opportunity personally to examine patients in hospital wards and in the outpatient department, and to make the essential laboratory examinations.

9. *Annual Announcements.*—The graduate school should publish annually announcements, bulletins or catalogues giving detailed information in regard to its teachers, laboratories, dispensaries and hospitals; outlines of the various opportunities for study offered in both fundamental and clinical branches; a complete list of the students enrolled during the last preceding year, showing their medical schools and years of graduation and the subjects for which they registered, and a list of those to whom advanced degrees or diploma-like certificates were granted.

10. *Advanced Degrees, Diplomas, Certificates.*—No advanced degree or diploma-like certificate should be granted to any one who is not known to be proficient in the specialty pursued; nor to any one, under any circumstances, who has not completed at least one academic year in full-time study of a single special subject in the institution granting the certificate; and unless scholarship records of the student show that, throughout the period, he has faithfully attended to his work, and unless reasonable tests show that he has diligently and satisfactorily completed the work for which he was registered.

1. The several fields of clinical specialization which are referred to are shown in the following list. Following completion of an internship in a general hospital, the minimum years designated after each subject represent what were considered as essential to insure efficiency in the various specialties by the Committees on Graduate Medical Instruction in their reports which were presented at the Annual Conference on Medical Education, held in Chicago, March 7, 1921:

Field	Years Essential	Field	Years Essential
(a) Surgery, General	3	(g) Internal Medicine	3
(b) Surgery, Orthopedic	3	(h) Pediatrics	3
(c) Surgery, Genito-Urinary	3	(i) Neuropsychiatry	3
(d) Gynecol. and Obstet.	3	(j) Dermatology	2
(e) Ophthalmology	2	(k) Public Health and Hygiene	2
(f) Otolaryngology	2		

APPROVED GRADUATE MEDICAL SCHOOLS

Revised to August 18, 1925

ALBANY MEDICAL COLLEGE, Albany, N. Y.—Courses in Infectious Diseases and Public Health. Dr. Chas. C. Duryee, Director.

BAYLOR UNIVERSITY COLLEGE OF MEDICINE, Dallas, Texas.—Summer Courses for General Practitioners. Dr. W. H. Mousrund, Dean.

CHICAGO POLICLINIC, North Clark and Oak St.—Courses for general practitioners. Dr. M. L. Harris, Secretary.

COLORADO SCHOOL OF TUBERCULOSIS, Colorado Springs, Colorado.—Dr. G. Burton Gilbert, Secretary, 402 Burns Bldg., Colorado Springs.

COLUMBIA UNIVERSITY COLLEGE OF PHYSICIANS AND SURGEONS, New York.—Higher Degree and General Practice Courses. Special Summer Course in Public Health (U. S. P. H. S.). Dr. William Darrach, Dean.

CORNELL UNIVERSITY MEDICAL COLLEGE, New York.—Higher Degree and General Practice Courses. Dr. Walter L. Niles, Dean.

DETROIT COLLEGE OF MEDICINE AND SURGERY, Detroit, Mich.—Course in Public Health. Dr. I. Werness, Registrar.

HARVARD MEDICAL SCHOOL, Courses for Graduates, Boston.—Basic Review and General Practice Courses. Dr. Samuel R. Meaker, Dean.

HERMAN KNAPP MEMORIAL EYE HOSPITAL, School of Ophthalmology, 500 W. 57th St., New York City.—Courses in Diseases of the Eye. Dr. Gerald H. Grout, Secretary.

HOWARD UNIVERSITY SCHOOL OF MEDICINE, Washington, D. C.—Courses for General Practitioners. Dr. Edward A. Balloch, Dean.

INDIANA UNIVERSITY SCHOOL OF MEDICINE, INDIANAPOLIS.—Higher Degree Courses. Dr. Charles P. Emerson, Dean.

JOHNS HOPKINS MEDICAL SCHOOL, Baltimore.—School of Public Health. Dr. William H. Welch, Director.

MANHATTAN EYE, EAR AND THROAT HOSPITAL, School of Graduate Medical Instruction, 210 E. 64th St., New York City. Mr. Reuben O'Brien, Supt.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge.—Higher Degrees in Public Health. Dr. Henry Paul Talbot, Dean.

NEUROLOGICAL INSTITUTE, 149 E. 67th St., New York City.—Clinical Clerkships. Dr. E. G. Zabriskie, Secretary, Medical Board.

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL, Second Avenue and Twentieth St., New York City.—Special Internships and General Practice Courses. Dr. William D. Cutter, Dean.

OHIO STATE UNIVERSITY COLLEGE OF MEDICINE, Columbus.—Course in Public Health. Dr. E. R. Hayhurst, Head of Dept. of Public Health.

PHYSIATRIC INSTITUTE, Morristown, New Jersey.—Diabetes and Other Metabolic Diseases. Dr. Frederick M. Allen, Director.

STANFORD UNIVERSITY SCHOOL OF MEDICINE, San Francisco.—Summer Courses for Graduates and Residencies in Medicine and Otolaryngology. Dr. William Ophuls, Dean.

STATE UNIVERSITY OF IOWA COLLEGE OF MEDICINE, Iowa City.—Summer Courses in Public Health (U. S. P. H. S.). Dr. Lee Wallace Dean, Dean.

TRUDEAU SCHOOL OF TUBERCULOSIS, Saranac Lake, New York.—Courses for General Practitioners. Dr. E. R. Baldwin, Director.

TULANE UNIVERSITY GRADUATE SCHOOL OF MEDICINE (New Orleans Polyclinic), New Orleans.—Higher Degrees, Fellowships and General Practice Courses. Dr. Charles Chassaignac, Dean.

UNIVERSITY OF BUFFALO SCHOOL OF MEDICINE, Buffalo, N. Y.—Summer Courses for General Practitioners. Dr. C. Sumner Jones, Dean.

UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE, New York City.—Special Courses in Surgery. Dr. John Wyckoff, Secretary.

UNIVERSITY OF CALIFORNIA GRADUATE DIVISION, Berkeley-San Francisco.—Higher Degree and Public Health Courses (U. S. P. H. S.). Dr. Charles B. Lipman, Dean.

UNIVERSITY OF CHICAGO, RUSH MEDICAL COLLEGE, Wood and Harrison Sts., Chicago.—Special and Higher Degree Courses and Residencies. Dr. Ernest E. Irons, Dean.

UNIVERSITY OF CINCINNATI COLLEGE OF MEDICINE, Cincinnati.—Fellowships in Surgery. Dr. Fredk. C. Hicks, President.

UNIVERSITY OF COLORADO SCHOOL OF MEDICINE, Denver.—Course in Ophthalmology. Dr. Chas. N. Meader, Dean.

UNIVERSITY OF GEORGIA MEDICAL DEPARTMENT, Augusta.—Courses in Public Health. Dr. William H. Goodrich, Dean.

UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE, Chicago. — Higher Degree Courses. Dr. Albert C. Eycleshymer, Dean.

UNIVERSITY OF MICHIGAN MEDICAL SCHOOL, Ann Arbor. — Summer Courses in Public Health (U. S. P. H. S.). Dr. Hugh Cabot, Dean.

UNIVERSITY OF MINNESOTA GRADUATE SCHOOL OF MEDICINE, Minneapolis-Rochester.—Higher Degree Fellowships and General Practice Courses. Dr. Guy Stanton Ford, Dean.

UNIVERSITY OF PENNSYLVANIA GRADUATE SCHOOL OF MEDICINE, Philadelphia.—Higher Degree and General Practice Courses. Dr. George H. Meeker, Dean.

UNIVERSITY OF TEXAS SCHOOL OF MEDICINE, Galveston. — Summer Courses for General Practitioners. Dr. W. Keiller, Dean.

UNIVERSITY OF WISCONSIN MEDICAL SCHOOL, Madison. — Course in Public Health. Miss G. K. McRae, Secretary.

WASHINGTON UNIVERSITY SCHOOL OF MEDICINE, St. Louis.—Courses in Otolaryngology, Pediatrics, Infant Feeding, Obstetrics and Diseases of the Heart. Dr. McKim Marriott, Dean.

YALE UNIVERSITY SCHOOL OF MEDICINE, New Haven, Conn.—Residencies and General Practice Courses. Dr. Milton C. Winternitz, Dean.

Berlin.—UNIVERSITY OF BERLIN MEDICAL FACULTY, Berlin, Germany.—Courses in Diseases of the Digestive Tract, Syphilis and Advanced Courses in Specialties. Further information and detailed prospectus may be secured by applying to the "Geschaftsstelle," Berlin, N. W. 6., Luisenplatz, 2-4-Kaiserin Friedrich-Haus.

Bordeaux.—UNIVERSITY OF BORDEAUX, France.—Special Courses Otorhinolaryngological Surgery, Bronchoscopy, Plastic, Mastoid and Neck Surgery. For information apply to Dr. Leon Felderman, 4428 York Rd., Philadelphia, Pa.

London.—HOSPITAL FOR SICK CHILDREN, Great Ormond St., London, W. C. 1, England.—Special Graduate Course in Pediatrics. Address, Oswald L. Addison, Dean, Medical School.

London.—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, Bloomsbury, W. C. 1, England.—Special Courses and Lectures on the Nervous System. Dr. J. G. Greenfield, Dean, Medical School.

London.—UNIVERSITY OF LONDON, University Extension Dept., London, England.—Course of Lectures on Medical Hydrology. Dr. Halburt J. Waring, Dean.

Scotland.—JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Courses for General Practitioners. For further information write to Dr. J. Hunter Paton, Secretary.

HOSPITALS PROVIDING APPROVED RESIDENCIES IN CERTAIN SPECIALTIES

BARNES HOSPITAL, 600 S. Kingshighway, St. Louis.—Residencies in the specialties, Internal Medicine, Obstetrics, Surgery and Gynecology. Dr. L. D. Burlingham, Med. Supt.

BLOOMINGDALE HOSPITAL FOR MENTAL DISEASES, White Plains, New York.—Courses in Psychiatry. Dr. W. L. Russell, Med. Dir.

CHILDREN'S MEMORIAL HOSPITAL, 735 Fullerton Ave., Chicago.—Special Courses in Infant Feeding, Pediatrics and Otolaryngology. Dr. G. E. Baxter, Secretary.

COLORADO PSYCHOPATHIC HOSPITAL, 4200 E. Ninth Ave., Denver.—Residencies in Neuropsychiatry. Dr. Franklin E. Elsaugh, Director.

FITZSIMONS GENERAL HOSPITAL, Denver Colo. Special Residencies in Tuberculosis. Lieut.-Colonel Paul C. Hutton, Commanding Officer.

HOSPITAL FOR JOINT DISEASES, Madison Ave. from 123d to 124th Sts., New York City. Residencies in Orthopedic Surgery, and Physiotherapy. Dr. Henry W. Frauenthal, Medical Director.

JOHNS HOPKINS HOSPITAL, Baltimore.—Residencies in the specialties. Dr. Winford H. Smith, Director.

MANHATTAN EYE, EAR AND THROAT HOSPITAL, 210 E. 64th St., New York City.—Special Internships in Eye and in Ear, Nose and Throat. Mr. Reuben O'Brien, Supt.

MANHATTAN MATERNITY AND DISPENSARY, 327 E. 60th St., New York City.—Special Residencies in Obstetrics. Miss Emily A. Porter, R.N., Supt.

MASSACHUSETTS EYE AND EAR INFIRMARY, 243 Charles St., Cor. Fruit St., Boston.—Special Internships in Eye, and in Ear, Nose and Throat. Dr. Frederic A. Washburn, Director.

MILWAUKEE CHILDREN'S HOSPITAL, 219—10th St., Milwaukee, Wis.—Special Residencies in Pediatrics. B. M. Henderson, Supt.

MISERICORDIA HOSPITAL, 2224 Chestnut St., Milwaukee, Wis.—Special Residencies in Obstetrics. Sister St. Jude, R.N., Supt.

MONTEFIORE HOSPITAL, Gun Hill Road near Jerome Ave., New York City.—Special Residencies in Medicine, Neurology, Tuberculosis and Orthopedic Surgery. Dr. Ernst P. Boas, Med. Dir.

MOUNT SINAI HOSPITAL, Fifth Ave. and 100th St., New York City.—Course in Internal Medicine and Pediatrics, Surgery, Gynecology and Dietetics. Write to the Secretary for Medical Instruction, 1 E. 100th St.

NEW HAVEN HOSPITAL, 330 Cedar St., New Haven, Conn.—Special Residencies in Gynecology, Medicine and Obstetrics. Dr. Willard C. Rappleye, Med. Dir.

NEW HAVEN SCHOOL OF PHYSIOTHERAPY, 420 Temple St., New Haven, Conn.—Dr. Harry Eaton Stewart, Director.

NEW YORK EYE AND EAR INFIRMARY, Second Ave., Corner 13th St., New York City.—Special Residencies in Ophthalmology and Otology. Mr. Eustis Paine, Secretary.

NEW YORK POST-GRADUATE HOSPITAL, Second Avenue and Twentieth St., New York City.—Special Internships and General Practice Courses. Dr. William D. Cutter, Med. Dir.

NEW YORK SKIN AND CANCER HOSPITAL, 2nd Ave. and 19th St., New York City.—Courses for General Practitioners. Miss Sara Burns, R.N., Supt.

NEW YORK SOCIETY FOR THE RELIEF OF THE RUPTURED AND CRIPPLED, 321 East 42nd St., New York City.—Special Courses in Orthopedic Surgery. Dr. Joseph D. Flick, Supt.

PENNSYLVANIA HOSPITAL, 4401 Market St., Philadelphia.—Courses in Neurology and Psychiatry. Dr. Earl D. Bond, Administrator.

PETER BENT BRIGHAM HOSPITAL, 721 Huntington Ave., Boston.—Special Courses in Medicine, Surgery, Pathology and Roentgenology. Dr. J. B. Howland, Supt.

PROVIDENCE CITY HOSPITAL, Eaton St., Providence, Rhode Island.—Courses in Contagious Diseases. Dr. D. L. Richardson, Med. Supt.

SOUTH VIEW MUNICIPAL HOSPITAL, 18th Ave. and Mitchell St., Milwaukee, Wis.—Courses in Contagious Diseases. Dr. W. W. Bauer, Med. Supt.

STATE HOSPITAL FOR MENTAL DISEASES, Howard, Rhode Island.—Courses in Neurology. Dr. Arthur H. Harrington, Med. Supt.

ST. ELIZABETH'S HOSPITAL, Claremont and LeMoyne Sts., Chicago.—Summer Courses in Clinical Medicine. Sister M. Cordula, Supt.

ST. LOUIS CHILDREN'S HOSPITAL, 500 S. Kingshighway, St. Louis.—Residencies in Pediatrics. Dr. L. H. Burlingham, Administrator.

ST. MARY'S, COLONIAL, KAHLER, WORRELL AND DAMON HOSPITALS, Rochester, Minn. Services in these hospitals form part of the Fellowships in the University of Minnesota Graduate Medical School. See list of Approved Graduate Medical Schools.

WILLS HOSPITAL, Philadelphia.—Residencies, 16 Months, in Ophthalmology. Mr. Stephen Wierzbichi, Supt.

Paris.—INTERNATIONAL CLINICS OF OTO-RHINO-LARYNGOLOGY AND FACIO-MAXILLARY SURGERY, St. Louis Hospital, Paris, France.—Courses in Oto-Rhino-Laryngology and Surgery. Applications or inquiries may be addressed to Dr. J. Eastman Sheehan, 636 Fifth Ave., New York.

Porto Rico.—PRESBYTERIAN HOSPITAL, San Juan.—Courses in Tropical Medicine. Dr. Garry R. Burke, Assoc. Med. Director.

Graduate Courses in Medical Subjects and Residencies in Specialties

WHERE THESE COURSES MAY BE OBTAINED

ANATOMY
Cornell University Medical College.
Harvard Medical School.
Indiana University School of Medicine.
James MacKenzie Institute for Clinical Research, Scotland.
University of California Graduate Division, Berkeley (for advanced students).
University of Illinois College of Medicine.
University of Minnesota Graduate School of Medicine.
University of Pennsylvania Graduate School of Medicine.
Yale University School of Medicine.

ANESTHESIA
Harvard Medical School.
New York Post-Graduate Medical School.
University and Bellevue Hospital Medical College.
University of California Graduate Division, Berkeley.
University of Pennsylvania Graduate School of Medicine.

BACTERIOLOGY
Columbia University College of Physicians and Surgeons.
Cornell University Medical College.
Harvard Medical School.
Indiana University School of Medicine.
James MacKenzie Institute for Clinical Research, Scotland.
New York Post-Graduate Medical School.
University of California Graduate Division, Berkeley.
University of Illinois College of Medicine.
University of Minnesota Graduate School of Medicine.
University of Pennsylvania Graduate School of Medicine.
Yale University School of Medicine.

BIOCHEMISTRY
Columbia University College of Physicians and Surgeons.
Cornell University Medical College.
Harvard Medical School.
Indiana University School of Medicine.
James MacKenzie Institute for Clinical Research, Scotland.
New York Post-Graduate Medical School.
University of California Graduate Division, Berkeley.
University of Illinois College of Medicine.
University of Minnesota Graduate School of Medicine.
University of Pennsylvania Graduate School of Medicine.
Yale University School of Medicine.

BRONCHOSCOPY
Columbia University College of Physicians and Surgeons.
University of Pennsylvania Graduate School of Medicine.

CARDIOLOGY
Harvard Medical School.
University of California Graduate Division, Berkeley.
University of Pennsylvania Graduate School of Medicine.
Washington University School of Medicine.
Yale University School of Medicine.

CONTAGIOUS DISEASES
Providence City Hospital, Rhode Island (Residencies).
South View Municipal Hospital, Milwaukee.
University of California Graduate Division, Berkeley (Residencies).
Yale University School of Medicine.

DENTAL, SURGERY
Mayo Foundation, Rochester, Minn. (Fellowships).

DERMATOLOGY
Chicago Policlinic.
Columbia University College of Physicians and Surgeons.
Cornell University Medical College.
Harvard Medical School.
Johns Hopkins Hospital (Residencies).
New York Post-Graduate Medical School.
New York Skin and Cancer Hospital.
Stanford University School of Medicine.
University of California Graduate Division, Berkeley.
University of Minnesota Graduate School of Medicine (Fellowships).
University of Pennsylvania Graduate School of Medicine.

DIABETES
Columbia University College of Physicians and Surgeons.
Harvard Medical School.
Physiatric Institute, Morristown, N. J.
University of Pennsylvania Graduate School of Medicine.

DIETETICS
Mount Sinai Hospital, New York.

ELECTRO-THERAPEUTICS
Columbia University College of Physicians and Surgeons.
Harvard Medical School.
University of Pennsylvania Graduate School of Medicine.

ELECTROCARDIOGRAPHY—(See Cardiology)

GASTRO-ENTEROLOGY
Columbia University College of Physicians and Surgeons.
Harvard Medical School.
University of California Graduate Division, Berkeley.
University of Pennsylvania Graduate School of Medicine.

GENITO-URINARY—(See Urology)

GYNECOLOGY
Barnes Hospital, St. Louis (Residencies).
Columbia University, College of Physicians and Surgeons.
Harvard Medical School.
Howard University School of Medicine.
Johns Hopkins Hospital (Residencies).
Mount Sinai Hospital, New York (Residencies).
New Haven Hospital (Residencies).
New York Post-Graduate Medical School.
Stanford University School of Medicine.
University of California Graduate Division (Residencies).
University of Minnesota Graduate School of Medicine (Fellowships).
University of Pennsylvania Graduate School of Medicine.

HOMEOPATHIC MEDICINE
University of California Graduate Division, Berkeley.

HYGIENE—(See Public Health)

IMMUNOLOGY
Columbia University College of Physicians and Surgeons.
Harvard Medical School.
University of California Graduate Division, Berkeley.
University of Pennsylvania Graduate School of Medicine.
Yale University School of Medicine.

INFANT FEEDING
Children's Memorial Hospital, Chicago.
Columbia University College of Physicians and Surgeons.
University of Pennsylvania Graduate School of Medicine.
Washington University School of Medicine.

INSULIN TREATMENT—(See Diabetes)

INTERNAL MEDICINE—(See Medicine)

INTUBATION
University of Pennsylvania Graduate School of Medicine.

LARYNGOLOGY AND RHINOLOGY
Columbia University College of Physicians and Surgeons.
Cornell University Medical College.
International Clinic of Oto-Rhino-Laryngology and Surgery (St. Louis Hospital, Paris, France).
Manhattan Eye, Ear and Throat Hospital.
Massachusetts Eye and Ear Infirmary (Residencies).
Mount Sinai Hospital, New York.
New York Post-Graduate Medical School.
Stanford University School of Medicine.
Tulane University Graduate School of Medicine.
University of Berlin Medical Faculty.
University of Bordeaux, France.
University of Chicago, Rush Medical College.
University of Minnesota Graduate School of Medicine (Fellowships).
Washington University School of Medicine.

MEDICAL HYDROLOGY
University of London, England.

MEDICINE
Barnes Hospital, St. Louis (Residencies)
Columbia University College of Physicians and Surgeons.
Cornell University Medical College.
Howard University School of Medicine.
Indiana University School of Medicine.
Johns Hopkins Hospital (Residencies).
Mount Sinai Hospital, New York (Residencies).
New Haven Hospital (Residencies.)
New York Post-Graduate Medical School.
Peter Bent Brigham Hospital, Boston (Residencies).
St. Elizabeth's Hospital, Chicago (Clinical Medicine).
Stanford University School of Medicine (Graduate Courses and Residencies).
University of Berlin Medical Faculty
University of California Graduate Division, Berkeley (Residencies).
University of Minnesota Graduate School of Medicine.
University of Pennsylvania Graduate School of Medicine.
Yale University School of Medicine.

MEDICO-MILITARY SCIENCE AND TACTICS
University of California Graduate Division, Berkeley.

METABOLIC DISEASES
Columbia University College of Physicians and Surgeons.
Harvard Medical School.
Physiatric Institute, Morristown, N. J.
Stanford University School of Medicine.
University of Berlin Medical Faculty.
University of California Graduate Division, Berkeley.
University of Minnesota Graduate School of Medicine.
Yale University School of Medicine.

NEPHRITIS
Columbia University College of Physicians and Surgeons.
Harvard Medical School.
Physiatric Institute, Morristown, N. J.
Yale University School of Medicine.

NEUROLOGY AND PSYCHIATRY
Bloomingdale Hospital for Mental Diseases, White Plains, N. Y.
Colorado Psychopathic Hospital (Residences).
Columbia University College of Physicians and Surgeons.
Cornell University Medical College.
Harvard Medical School.
Johns Hopkins Hospital (Residencies).
Montefiore Hospital, New York City (Residencies).
Mount Sinai Hospital, New York.
National Hospital for the Paralysed and Epileptic, W. C. 1, London.
Neurological Institute, New York City.
New York Post-Graduate Medical School.
Pennsylvania Hospital, Philadelphia (Residencies).
Stanford University School of Medicine.
State Hospital for Mental Diseases, Howard, R. I.
University of California Graduate Division, Berkeley.
University of Minnesota Graduate School of Medicine (Fellowships).
University of Pennsylvania Graduate School of Medicine.

OBSTETRICS
Barnes Hospital, St. Louis (Residencies)
Harvard Medical School.
Howard University School of Medicine.
Johns Hopkins Hospital (Residencies).
Manhattan Maternity and Dispensary, New York City (Residencies).
Misericordia Hospital, Milwaukee (Residencies).
New Haven Hospital (Residencies).
Stanford University School of Medicine.
Tulane University Graduate School of Medicine (Fellowships).
University of California Graduate Division (Residencies).
University of Minnesota Graduate School of Medicine.
University of Pennsylvania Graduate School of Medicine.
Washington University School of Medicine.

OPHTHALMOLOGY AND OTOLOGY
Columbia University College of Physicians and Surgeons.
Cornell University Medical College.
Harvard Medical School.
Herman Knapp Memorial Eye Hospital.
James MacKenzie Institute for Clinical Research, Scotland.
Manhattan Eye, Ear and Throat Hospital.
Massachusetts Eye and Ear Infirmary (Residencies).
Mount Sinai Hospital, New York.
New York Eye and Ear Infirmary (Residencies).
New York Post-Graduate Medical School.
Stanford University School of Medicine.
Tulane University Graduate School of Medicine.
University of California Graduate Division, Berkeley.
University of Colorado School of Medicine.
University of Minnesota Graduate School of Medicine.
University of Pennsylvania Graduate School of Medicine.
Washington University School of Medicine.
Wills Hospital, Philadelphia (Residencies).

ORTHOPEDIC, SURGERY
Harvard Medical School.
Hospital for Joint Diseases, New York City (Residencies).
New York Post-Graduate Medical School.
New York Society for the Relief of the Ruptured and Crippled, New York City (Residencies).
Stanford University School of Medicine.
University of California Graduate Division, Berkeley.
University of Minnesota Graduate School of Medicine (Fellowships).
University of Pennsylvania Graduate School of Medicine.
Yale University School of Medicine.

OTO-LARYNGOLOGY
Columbia University College of Physicians and Surgeons.
Harvard Medical School.
Howard University School of Medicine.
Indiana University School of Medicine.
International Clinic of Oto-Rhino-Laryngology and Surgery (St. Louis Hospital, Paris).
Johns Hopkins Hospital, Baltimore (Residencies).
New York Post-Graduate Medical School.
Stanford University School of Medicine (Graduate Courses and Residencies).
University of Berlin Medical Faculty.
University of Bordeaux, France.
University of Chicago, Rush Medical College.
University of California Graduate Division, Berkeley.
University of Minnesota Graduate School of Medicine (Fellowships).
University of Pennsylvania Graduate School of Medicine.
Washington University School of Medicine.

PARASITOLOGY AND TROPICAL MEDICINE
University of California Graduate Division, Berkeley.
University of Pennsylvania Graduate School of Medicine.

PATHOLOGY
Columbia University College of Physicians and Surgeons.
Cornell University Medical College.
Harvard Medical School.
Indiana University School of Medicine.
New York Post-Graduate Medical School.
Peter Bent Brigham Hospital, Boston.
Stanford University School of Medicine.
University of California Graduate Division, Berkeley (for advanced students).
University of Illinois College of Medicine.
University of Minnesota Graduate School of Medicine.
University of Pennsylvania Graduate School of Medicine.
Yale University School of Medicine.

PEDIATRICS
Children's Memorial Hospital, Chicago.
Columbia University College of Physicians and Surgeons.
Harvard Medical School.
Hospital for Sick Children, London, England.
Johns Hopkins Hospital, Baltimore (Residencies).
Milwaukee Children's Hospital (Residencies).
Mt. Sinai Hospital, New York City.
New York Post-Graduate Medical School.
Stanford University School of Medicine.
St. Louis Children's Hospital (Residencies).
Tulane University Graduate School of Medicine (Fellowships).
University of California Graduate Division (Residencies).
University of Minnesota Graduate School of Medicine (Fellowships).
University of Pennsylvania Graduate School of Medicine.
Washington University School of Medicine.
Yale University School of Medicine (Research).

PHARMACOLOGY
Cornell University Medical College.
Harvard Medical School.
Stanford University School of Medicine.
University of California Graduate Division, Berkeley.
University of Illinois College of Medicine.
University of Pennsylvania Graduate School of Medicine.
Yale University School of Medicine.

PHYSIOLOGY
Columbia University College of Physicians and Surgeons.
Cornell University Medical College.
Harvard Medical School.
Indiana University School of Medicine.
James MacKenzie Institute for Clinical Research, Scotland.
University of California Graduate Division.
University of Pennsylvania Graduate School of Medicine.
Yale University School of Medicine.

PHYSIOTHERAPY
Columbia University College of Physicians and Surgeons.
Harvard Medical School.
Hospital for Joint Diseases, New York City (Residencies).
New Haven School of Physiotherapy.
Stanford University School of Medicine.

PREVENTIVE MEDICINE (See Public Health)

PROCTOLOGY
Harvard Medical School.

PUBLIC HEALTH, HYGIENE AND PREVENTIVE MEDICINE
Albany Medical College.
Columbia University College of Physicians and Surgeons.
Detroit College of Medicine and Surgery.
Harvard Medical School.
Howard University School of Medicine.
Johns Hopkins Medical School, Baltimore.
Massachusetts Institute of Technology.
Ohio State University College of Medicine.
State University of Iowa College of Medicine.
University of California Graduate Division, Berkeley.
University of Georgia Medical Department.
University of Michigan Medical School.
University of Minnesota Graduate School of Medicine.
University of Pennsylvania Graduate School of Medicine.
University of Wisconsin Medical School, Madison.
Yale University School of Medicine, New Haven.

RADIOLOGY
Harvard Medical School.
Howard University School of Medicine.
James MacKenzie Institute for Clinical Research, Scotland.
New York Post-Graduate Medical School.
New York Skin and Cancer Hospital.
Peter Bent Brigham Hospital, Boston.
Stanford University School of Medicine.
University of California Graduate Division, Berkeley.
University of Minnesota Graduate School of Medicine (Fellowships).
University of Pennsylvania Graduate School of Medicine.
Yale University School of Medicine.

REFRACTION
Columbia University College of Physicians and Surgeons.
Cornell University Medical College.
Harvard Medical School.
Herman Knapp Memorial Eye Hospital.
Manhattan Eye, Ear and Throat Hospital.
Massachusetts Eye and Ear Infirmary.
New York Post-Graduate Medical School.
Tulane University Graduate School of Medicine.
University of Colorado School of Medicine.
University of Minnesota Graduate School of Medicine.
University of Pennsylvania of Graduate School of Medicine.
Washington University School of Medicine.

RESEARCH MEDICINE
University of California Graduate Division (for advanced students)

RHINOLOGY—(See Oto-laryngology)

ROENTGENOLOGY—(See Radiology)

SURGERY (Surgical Anatomy, Surgical Diagnosis, Operative Surgery)
Barnes Hospital, St. Louis (Residencies).
Columbia University College of Physicians and Surgeons.
Cornell University Medical College.
Harvard Medical School.
Howard University School of Medicine.
Indiana University School of Medicine.
International Clinic of Oto-Rhino-Laryngology and Surgery (St. Louis Hospital, Paris, France).
Johns Hopkins Hospital (Residencies).
Mount Sinai Hospital, New York City (Residencies).
New York Post-Graduate Medical School.
Peter Bent Brigham Hospital, Boston (Residencies).
Stanford University School of Medicine.
University and Bellevue Hospital Medical College.
University of California Graduate Division (Residencies).
University of Cincinnati College of Medicine (Fellowships).
University of Minnesota Graduate School of Medicine (Fellowships).
University of Pennsylvania Graduate School of Medicine.
Yale University School of Medicine.

SURGERY (Traumatic and Emergency)
New York Post-Graduate Medical School.

SYPHILOLOGY
Columbia University College of Physicians and Surgeons.
Harvard Medical School.
New York Skin and Cancer Hospital.
Stanford University School of Medicine.
University of Berlin Medical Faculty.
University of California Graduate Division, Berkeley.
University of Pennsylvania Graduate School of Medicine.
Yale University School of Medicine.

TROPICAL MEDICINE
Columbia University College of Physicians and Surgeons.
Presbyterian Hospital, San Juan, Porto Rico.

TUBERCULOSIS
Colorado School of Tuberculosis.
Fitzsimons General Hospital, Denver, Colo. (Residencies).
The Trudeau School of Tuberculosis, Saranac Lake, N. Y.
University of California Graduate Division (Residencies).
University of Pennsylvania Graduate School of Medicine.

UROLOGY
Chicago Policlinic.
Harvard Medical School.
Howard University School of Medicine.
Johns Hopkins Hospital (Residencies).
New York Post-Graduate Medical School.
Stanford University School of Medicine.
University of California Graduate Division, Berkeley.
University of Minnesota Graduate School of Medicine.
University of Pennsylvania Graduate School of Medicine.
Yale University School of Medicine.

VENEREOLOGY
Chicago Policlinic.

DESCRIPTION OF MEDICAL COLLEGES

Below are given brief descriptions of the medical colleges in the United States and Canada that are legally chartered to teach medicine, of which ten do not grant degrees. The name, address, year of organization, history and date when first class graduated are given in each instance. Unless otherwise stated, a class graduated each subsequent year. Where official reports have been received from the college, information regarding faculty, entrance requirements, length of term, fees, students (excluding specials and postgraduates), graduates, name of dean and next session is given without discrimination. In a few instances in which such reports were not received, the information published is from other reliable sources. Figures for graduates include all who graduated since July 1, 1924. Extract of rules and the membership of the Association of American Medical Colleges are shown following the list of colleges. Figures showing population of cities and states are taken from the United States Census Bureau's report for 1920. Statements have been added showing the preliminary requirements held by state licensing boards where those requirements include one or two years of college work. Twelve states, Alaska (Ter.), Delaware, Illinois, Iowa, Michigan, New Jersey, North Dakota, Pennsylvania, Rhode Island, South Dakota, Utah and Washington, require also a year's hospital internship as an essential qualification for a license.

ALABAMA

Alabama, population 2,348,174, has one medical college, the School of Medicine of the University of Alabama, located in Tuscaloosa, a city with a population of 11,996.

In order to secure licenses to practice medicine in Alabama, students must complete two years of work in an approved college of liberal arts, including courses in physics, chemistry, biology and a modern language, prior to entering on the study of medicine.

Tuscaloosa

UNIVERSITY OF ALABAMA SCHOOL OF MEDICINE, University Campus, Tuscaloosa.—Organized in 1859 at Mobile as the Medical College of Alabama. Classes graduated in 1861 and subsequent years excepting 1862 to 1868, inclusive. Reorganized in 1897 as the medical department of the University of Alabama. Present title assumed in 1907, when all property was transferred to the University of Alabama. In 1920, clinical teaching was suspended and the medical school was removed to the university campus at Tuscaloosa. The faculty includes 6 professors and 6 instructors, assistants, etc., a total of 12. The course of study covers two years of thirty-six weeks each. The tuition fee each year is $260. The Dean is Dr. Clyde Brooks. Total registration for 1924-1925 was 86. The sixtieth session begins Sept. 9, 1925, and ends May 25, 1926.

ARKANSAS

Arkansas, population 1,752,204, has one medical college, the Medical Department of the University of Arkansas, located in Little Rock, a city of 65,142.

To secure licenses to practice medicine in Arkansas, students must complete two years of collegiate work, including college courses in physics, chemistry, biology and a modern language, before beginning the study of medicine.

Little Rock

UNIVERSITY OF ARKANSAS MEDICAL DEPARTMENT, Markham and Center Streets.—Organized in 1879 as the Medical Department of Arkansas Industrial University. It assumed the present title in 1899. In 1911 the College of Physicians and Surgeons united with it and the new school was made an integral part of the University of Arkansas. The first class was graduated in 1880. Clinical teaching was suspended in 1918 but resumed in 1923. The faculty consists of 23 professors and 48 lecturers and assistants, total 71. The curriculum embraces four years of thirty-four weeks each. Entrance requirements are two years of collegiate work in addition to a four-year high school course. The fees for the four years, respectively, for residents of Arkansas are $80, $85, $70, and $95; nonresidents are charged $100 additional each year. The Dean is Dr. Morgan Smith. The total registration for 1924-1925 was 133; graduates, 23. The forty-seventh session begins Sept. 17, 1925, and ends June 3, 1926.

CALIFORNIA

California, population 3,426,861, has three medical colleges. Two are located in San Francisco, a city of 506,676 inhabitants. They are Stanford University School of Medicine and the College of Medicine of the University of California. The College of Medical Evangelists is located at Loma Linda and Los Angeles, the latter city having a population of 576,673.

To secure a license to practice medicine in California under the "physician's and surgeon's" certificate, students must complete at least a year of work of college grade including courses in physics, chemistry and biology before beginning the second half of the second year in the study of medicine.

Berkeley-San Francisco

UNIVERSITY OF CALIFORNIA MEDICAL SCHOOL, University Campus, Berkeley; Second and Parnassus Avenues, San Francisco.—Organized in 1863 as the Toland Medical College. The first class graduated in 1864. In 1872 it became the Medical Department of the University of California. In 1909 the College of Medicine of the University of Southern California, at Los Angeles, by legislative enactment, became a clinical department. This Los Angeles portion was changed to a graduate school in 1914. In 1915 the Hahnemann Medical College of the Pacific was merged, and elective chairs in homeopathic materia medica and therapeutics were provided. Three years of collegiate work are required for admission. The work of the first year and a half is given at Berkeley and the work of the last two and a half years at San Francisco. The faculty is composed of 68 professors and 158 associates and assistants, a total of 226. The course covers four years of eight months each, and an additional fifth year consisting of an internship in a hospital or of special work in a department of the medical school. Fees for the four years, respectively, for residents of California are $290, $248, $235 and $225; nonresidents are charged $300 additional each year. The Dean is Dr. L. S. Schmitt. Total registration for 1924-1925 was 209; graduates, 49. The fifty-third session begins Aug. 14, 1925, and ends May 12, 1926.

Loma Linda-Los Angeles

COLLEGE OF MEDICAL EVANGELISTS.—Organized in 1909. The first class graduated in 1914. The laboratory departments are at Loma Linda; the clinical departments at Los Angeles on property bounded by Boyle, Michigan, Bailey and New Jersey streets. The faculty is composed of 50 professors and 111 associates, assistants and instructors, a total of 161. The course extends over five years of nine months each —the fifth year consisting of an internship in a hospital, or of special work in a department of the Medical School. The work of the first two years is given at Loma Linda and of the third and fourth years at Los Angeles. Two years of college work are required for admission. The total fees for the four years, respectively, are $221, $263, $258 and $255. The President is Dr. Newton Evans, Loma Linda, Calif., and the Dean of the Clinical Division is Dr. P. T. Magan, Los Angeles. The total registration for 1924-1925 was 250; graduates, 67. The seventeenth session begins Sept. 6, 1925, and ends May 30, 1926.

San Francisco-Stanford University

STANFORD UNIVERSITY SCHOOL OF MEDICINE, Campus, Sacramento and Webster Streets, San Francisco.—Organized in 1908 when, by an agreement, the interests of Cooper Medical College were taken over. The first class was graduated in 1913. The faculty consists of 70 professors and 95 lecturers, assistants, etc., a total of 165. Three years of collegiate work are required for admission. The course covers four years of nine months each, plus a fifth year of practice or intern work. The total fees for each of the first four years are $261. The Dean is Dr. W. Ophüls, San Francisco. The total registration for 1924-1925 was 169; graduates, 28. The sixteenth session begins Oct. 1, 1925, and ends June 6, 1926.

COLORADO

Colorado, with a population of 939,629, has one medical college, the University of Colorado School of Medicine. It is located in Denver, which has a population of 256,491.

The Colorado State Board of Medical Examiners will register without further examination graduates of medical colleges in good standing who present licenses issued after examination by any other licensing board. The law permits any one, graduate or nongraduate, to try the board's written examination.

Boulder-Denver

UNIVERSITY OF COLORADO SCHOOL OF MEDICINE.—Organized in 1883. Classes were graduated in 1885 and in all subsequent years except 1898 and 1899. Denver and Gross College of Medicine were merged Jan. 1, 1911. The faculty embraces 42 professors and 31 lecturers, instructors and assistants, a total of 73. The work embraces a graded course of four years of nine months each and a year's internship in a hospital. The entrance requirements are two years of college work counting toward a degree in arts in an accredited college or university. The fees for residents of Colorado, for each of the four years are, respectively, $206, $221, $191 and $181. Nonresidents pay $105 more each year. The

Dean is Dr. Maurice H. Rees. The total registration for 1924-1925 was 148; graduates, 30. The forty-fourth session begins Sept. 28, 1925, and ends June 4, 1926.

CONNECTICUT

Connecticut, with a population of 1,380,631, has one medical college, Yale University School of Medicine, located in New Haven, population 162,537.

Students who desire to practice medicine in Connecticut will not be eligible unless, prior to entering the study of medicine, they complete, in addition to an accredited four-year high school education, at least nine months of collegiate work including college courses in physics, chemistry and general biology.

New Haven

YALE UNIVERSITY SCHOOL OF MEDICINE, 150 York Street and at corner Congress Avenue and Cedar Street.—Chartered in 1810 as the Medical Institution of Yale College. Organized in 1812; instruction began in 1813; first class graduated in 1814. A new charter in 1879 changed the name to the Medical Department of Yale College. In 1884, the Connecticut Medical Society surrendered such authority as had been granted by the first charter. In 1887, Yale College became Yale University. The faculty consists of 47 professors and 92 lecturers and assistants, a total of 139. The requirements for admission are three years of collegiate work plus evidence of satisfactory completion of courses in general physics, general inorganic chemistry, qualitative analysis, general biology, organic chemistry and physical chemistry or laboratory physics, all reasonably equivalent to the courses in these subjects in Yale University. The student also must have two years of French or German. The course covers four years of nine months each. The fees for the four years, respectively, are $305, $300, $300 and $320. The Dean is Dr. Milton C. Winternitz. The total registration for 1924-1925 was 186; graduates, 45. The one hundred and thirteenth session begins Oct. 1, 1925, and ends June 6, 1926.

DISTRICT OF COLUMBIA

The District of Columbia, population 437,571, has three medical colleges: George Washington University Medical School, Georgetown University School of Medicine and Howard University School of Medicine.

Washington

GEORGE WASHINGTON UNIVERSITY MEDICAL SCHOOL, 1335 H Street, N.-W.—Organized in 1825 as the Medical Department of Columbian College. Also authorized to use the name National Medical College. Classes were graduated in 1826 and in all subsequent years, except 1834 to 1838, and 1861 to 1863, inclusive. The original title was changed to Medical Department of Columbian University in 1873. In 1903 it absorbed the National University Medical Department. In 1904, by an act of Congress, the title of George Washington University was granted to the institution. The faculty is composed of 53 professors and 100 instructors, demonstrators and assistants, a total of 153. Two years of collegiate work are required for admission. The course covers four years of thirty-two weeks each. The fees for the four years, respectively, are $295, $292, $292, and $292. The Dean is Dr. William C. Borden. The total registration for 1924-1925 was 253; graduates, 46. The one hundred and first session begins Sept. 23, 1925, and ends June 9, 1926.

GEORGETOWN UNIVERSITY SCHOOL OF MEDICINE, 920 H Street, N.-W.—Organized in 1851. The first class graduated in 1852. The faculty contains 25 professors, 76 instructors and assistants; total, 101. Two years of collegiate work are required for entrance. The course of study covers four terms of eight and one-half months each. The fees for each of the four sessions, respectively, are $215, $200, $200 and $210. The Dean is Dr. George M. Kober. The registration for 1924-1925 was 229; graduates, 42. The seventy-fifth session begins Sept. 4, 1925, and ends June 9, 1926.

HOWARD UNIVERSITY SCHOOL OF MEDICINE, Fifth and W Streets, N.-W.—Chartered in 1867. Organized in 1869. The first class graduated in 1871. Colored students compose a majority of those in attendance. The faculty comprises 28 professors and 28 lecturers and assistants, 56 in all. The admission requirements are two years of collegiate work, including physics, chemistry, botany and zoology, English and two years of French or German. The course covers four years of thirty-three weeks each. The fees of each of the four sessions, respectively, are $163, $158, $158 and $165. The Dean is Dr. Edward A. Balloch. Registration for 1924-1925 was 247; graduates, 72. The fifty-eighth session begins Oct. 1, 1925, and ends June 11, 1926.

GEORGIA

Georgia, population 2,895,832, has two medical colleges, University of Georgia Medical Department, located in Augusta, population 52,548, and the Emory University School of Medicine in Atlanta, a city of 200,616.

In order to secure a license to practice medicine in Georgia, students must complete two years of work in an approved college of liberal arts and sciences, including courses in physics, chemistry and biology, prior to entering on the study of medicine.

Atlanta

EMORY UNIVERSITY SCHOOL OF MEDICINE, 98 N. Butler Street.—Organized in 1854. Classes graduated 1855 to 1861, when it suspended. Reorganized in 1865. A class graduated in 1865 and each subsequent year except 1874. In 1898 it merged with the Southern Medical College (organized in 1878), taking the name of Atlanta College of Physicians and Surgeons. In 1913 it merged with the Atlanta School of Medicine (organized in 1905), reassuming the name of Atlanta Medical College. Became the Medical Department of Emory University in 1915; assumed present title in 1917. Two years of collegiate work are required for admission. The faculty has 17 professors and 110 associates and assistants, a total of 127. The course of study is four years of thirty-three weeks each. The fees for each of the four years, respectively, are $253, $233, $228 and $253. The Dean is Dr. Russell H. Oppenheimer. Total registration for 1924-1925 was 217; graduates, 60. The next session begins Sept. 29, 1925, and ends June 8, 1926.

Augusta

UNIVERSITY OF GEORGIA MEDICAL DEPARTMENT, University Place.—Organized in 1828 as the Medical Academy of Georgia, the name being changed to the Medical College of Georgia in 1829. Since 1873 it has been known as the Medical Department of the University of Georgia. Entire property transferred to the university in 1911. Classes were graduated in 1833 and in all subsequent years except 1862 and 1863. The faculty includes 14 professors and 43 assistants, 61 in all. Two years of collegiate work are required for entrance. The course is four years of thirty-four weeks each. The fees for each of the four years, respectively, are $115, $60, $60 and $60 for residents of Georgia and $300 each year for nonresidents. The Dean is Dr. William H. Goodrich. The total registration for 1924-1925 was 140; graduates, 25. The ninety-fourth session begins Sept. 4, 1925, and ends May 31, 1926.

ILLINOIS

Illinois, population 6,485,280, has five medical colleges, one of which gives instruction at night, all located in Chicago, a city of 2,701,705 inhabitants. They are as follows: Rush Medical College, Northwestern University Medical School, University of Illinois College of Medicine, Loyola University School of Medicine and the Chicago Medical School.

To be eligible for license to practice medicine in Illinois, students must complete two years of collegiate work including courses in physics, chemistry, biology and a modern language before entering on the study of medicine. In addition to their four year course in medicine they must complete also a year's internship in a hospital.

Chicago

RUSH MEDICAL COLLEGE.—Founded in 1837; organized in 1843; was the medical department of Lake Forest University from 1887 until 1898, when it became affiliated with the University of Chicago. The first class graduated in 1844. The faculty is composed of 128 professors, 156 associates, instructors, etc., a total of 284. The requirements for admission are three years of college work, including courses in college chemistry, physics and biology, and a reading knowledge of German or French. Classes are limited to 100 students in each of the freshman and sophomore classes, and to 140 students in each of the clinical years. No application for admission is accepted after June 1. The school operates under the "quarter system" in which the year is divided into four quarters of twelve weeks each; the completion of the work of three of these quarters gives credit for a college year. The course covers four years of eight and a half months each, and a fifth year, consisting of a hospital internship or of a fellowship in one of the departments. All freshman and sophomore studies are given at the University of Chicago. The clinical years are given in the building at the corner of Wood and Harrison Streets. The tuition fees for each of the four years, respectively, are $280, $270, $270 and $290. The Dean is Dr. Ernest E. Irons. Total registration for 1924-1925 was 531; graduates, 133. The eighty-first session begins Oct. 1, 1925, and ends June 16, 1926.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, 2421 South Dearborn Street.—Organized in 1859 as the Medical Department of Lind University. First class graduated in 1860. In 1864 it became independent as the Chicago Medical College. It united with Northwestern University in 1869, but retained the name of Chicago Medical College until 1891, when the present name was taken. Became an integral part of Northwestern University in 1905. The faculty comprises 66 professors and 122 lecturers and assistants, a total of 188. The requirements for admission are such as will admit to the College of Liberal Arts of Northwestern University, plus two years of college work, including courses in physics, chemistry, biology and a modern language. The course covers four years of eight months each and a year's internship in an approved hospital. The fees for the four years, respectively, are $244, $244, $245 and $260. The Dean is Dr. Irving S. Cutter. The total registration for 1924-1925 was 428; graduates, 105. The sixty-sixth session begins Sept. 29, 1925, and ends June 2, 1926.

UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE, 508 S. Honore Street.—Organized in 1882 as the College of Physicians and Surgeons. The first class graduated in 1883. It became the Medical Department of the University of Illinois by affiliation in 1897 and an integral part in 1910. The relationship with the university was canceled in June, 1912, but restored in March, 1913, when the present title was assumed. Two years of collegiate work are required for admission. The curriculum covers four years of thirty-three weeks each, and a year's internship in an approved hospital. The faculty is composed of 76 professors, 137

assistants and instructors, a total of 213. The tuition fees are $165 each year for resident students and $35 extra for nonresidents. The Dean is Dr. Albert C. Eycleshymer. The total registration for 1924-1925 was 460; graduates, 95. The forty-fourth session begins Oct. 5, 1925, and ends June 12, 1926.

LOYOLA UNIVERSITY SCHOOL OF MEDICINE, 706 S. Lincoln St., Chicago.—Organized in 1868 as the Bennett College of Eclectic Medicine and Surgery. Eclecticism dropped and title of Bennett Medical College assumed in 1909. First class graduated in 1870, and a class graduated each subsequent year. Absorbed the Illinois Medical College in 1910 and the Reliance Medical College in 1911. In 1910 it became by affiliation the School of Medicine of Loyola University; the university assumed full control in 1915. Took over by purchase the Chicago College of Medicine and Surgery in 1917. Two years of college work are required for admission. The course of study is five years including an internship in a hospital. The faculty is composed of 61 professors, 52 assistants and instructors, a total of 113. The total fees are $300 each year. The Dean is Dr. Louis D. Moorhead. The total enrolment for 1924-1925 was 329; graduates, 55. The next session begins Oct. 1, 1925, and ends June 9, 1926.

CHICAGO MEDICAL SCHOOL, an afternoon and night school, located at 3832 Rhodes Avenue.—Organized in 1911 as the Chicago Hospital College of Medicine; chartered in 1912. In December, 1917, the classes of the Jenner Medical College were transferred to it. A year's internship in a hospital is required for graduation. Total registration for 1924-1925 was 129; graduates, 0. *Official reports state that the diplomas from this college are not recognized by the licensing boards of forty-six states.*

INDIANA

Indiana, population 2,930,390, has one medical college, the Indiana University School of Medicine, located at Indianapolis, a city of 314,194 people, except that the work of the first year is offered also at Bloomington, the seat of the university.

Students who intend to practice medicine in Indiana must complete two years of collegiate work, in addition to an accredited four-year high school course, prior to beginning the study of medicine.

Bloomington and Indianapolis

INDIANA UNIVERSITY SCHOOL OF MEDICINE.—Organized in 1903, but did not give all of the work of the first two years of the medical course until 1905. In 1907, by union with the State College of Physicians and Surgeons, the complete course in medicine was offered. In 1908 the Indiana Medical College, which was formed in 1905 by the merger of the Medical College of Indiana (organized in 1878), the Central College of Physicians and Surgeons (organized in 1879), and the Fort Wayne College of Medicine (organized in 1879), merged into it. The first class was graduated in 1908. The faculty consists of 73 professors and 193 lecturers, associates and assistants, a total of 266. Two years of collegiate work are required for admission. The work of the first year is emphasized only at Bloomington. The work of the other three years is all at Indianapolis. The fees each year are $175 for residents of Indiana and $250 for nonresidents. Matriculation fee, $15; microscope fee, $5 to $7.50 per semester. A fifth optional intern year leading to the "M.D. cum laude" has been added. The Assistant Dean at Bloomington is Dr. B. D. Myers; the Dean is Dr. Charles P. Emerson, Indianapolis. The total registration for 1924-1925 was 379; graduates, 88. The next session begins Sept. 14, 1925, and ends June 9, 1926.

IOWA

Iowa, population 2,404,021, has one medical college, the College of Medicine of the State University of Iowa, located in Iowa City, population 11,267.

Students who desire to practice medicine in Iowa must complete two years of work in an approved college of liberal arts prior to beginning the study of medicine, this preliminary college work to have included courses in physics, chemistry, biology and a foreign language; they must also have completed a year's internship in an approved hospital.

Iowa City

STATE UNIVERSITY OF IOWA COLLEGE OF MEDICINE, University Campus.—Organized in 1869. First session began in 1870. First class graduated in 1871. Absorbed Drake University College of Medicine in 1913. The faculty is made up of 42 professors, 55 lecturers, demonstrators and assistants, a total of 97. Two years of college work, including courses in physics, chemistry, biology, French or German and English, are required for admission. The course of study covers four years of thirty-four weeks each. The tuition fee is $186 each year for residents of Iowa and $350 for nonresidents, plus a matriculation fee of $10 and a graduation fee of $15. The Dean is Dr. Lee Wallace Dean, Iowa City. Total registration for 1924-1925 was 411; graduates, 76. The fifty-sixth session begins Sept. 21, 1925, and ends June 5, 1926.

KANSAS

Kansas, population 1,769,257, has one medical college. The School of Medicine of the University of Kansas gives its first two years in Lawrence, population 12,456, and the last two years in Kansas City, which with Kansas City, Mo., have a combined population of 433,261.

Students who desire to practice medicine in Kansas must complete at least two years of collegiate work including college courses in physics, chemistry and biology in addition to an accredited four-year high school course.

Lawrence and Kansas City

UNIVERSITY OF KANSAS SCHOOL OF MEDICINE.—Organized in 1880. It offered only the first two years of the medical course until in 1905, when it merged with the Kansas City (Mo.) Medical College, founded in 1869, the College of Physicians and Surgeons, founded in 1894, and the Medico-Chirurgical College, founded in 1897. First class graduated in 1906. The clinical courses are given at Kansas City. Absorbed Kansas Medical College in 1913. The faculty, including lecturers and clinical assistants, numbers 113. The requirements for admission are two years of collegiate work. The course covers four years of nine months each. The total fees for residents of the state for each of the four years are, respectively, $125, $100, $106 and $110. For nonresidents the fees are $10 additional each year. The acting Dean is Dr. Harry Roswell Wahl. The total registration for 1924-1925 was 165; graduates, 32. The forty-sixth session begins Sept. 10, 1925, and ends June 8, 1926.

KENTUCKY

Kentucky, population 2,416,630, has one medical college, the University of Louisville Medical Department, situated in Louisville, a city of 234,891 inhabitants.

To be eligible for license to practice medicine in Kentucky, students must complete two years of college work, including courses in physics, chemistry, biology and a modern language, prior to beginning the study of medicine.

Louisville

UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE, First and Chestnut Streets.—Organized in 1837 as Louisville Medical Institute. The first class graduated in 1838, and a class graduated in each subsequent year except in 1863. In 1846 name changed to University of Louisville Medical Department. In 1907 it absorbed the Kentucky University Medical Department; in 1908 the Louisville Medical College, the Hospital College of Medicine and the Kentucky School of Medicine. In the fall of 1922 it became more closely correlated in the University of Louisville and changed its name to the University of Louisville School of Medicine. About the same time it assumed complete control of the professional side of the Louisville City Hospital on a twelve months' basis, under an agreement with the City Administration, the Dean becoming Chairman of the Hospital Staff Executive Committee and the Professor of Medicine the Hospital Staff Executive, with the Hospital Superintendent as business manager and secretary. Two years of college work required for admission. It has a faculty of 25 professors, 13 associate and assistant professors, 3 lecturers, 40 instructors and 23 assistants, a total of 109. Students limited to 75 Freshmen, 65 Sophomores, 60 Juniors and 60 Seniors. Course covers four years of thirty-two weeks each exclusive of vacations and examinations. Fees for four years are, respectively, $260, $260, $270 ad $290. The Dean is Dr. Stuart Graves. Total registration for 1924-1925 was 276; graduates, 63. Next session begins Sept. 14, 1925, and ends June 17, 1926.

LOUISIANA

Louisiana, having a population of 1,798,509, contains one medical college, the School of Medicine of the Tulane University of Louisiana, situated in New Orleans, a city of 387,219.

Students who desire to practice medicine in Louisiana must complete, at an approved college or university, two years of college work, including biology, physics, chemistry and a modern language, before entering on the study of medicine.

New Orleans

TULANE UNIVERSITY OF LOUISIANA SCHOOL OF MEDICINE, University Campus and 1551 Canal Street.—Organized in 1834 as the Medical College of Louisiana. Classes were graduated in 1835 and in all subsequent years except 1863-1865, inclusive. It was transferred to the Medical Department of the University of Louisiana in 1847 and became the Medical Department of the Tulane University of Louisiana in 1884. Present name in 1913, when it became the School of Medicine of the College of Medicine of the Tulane University of Louisiana. The faculty has 32 professors and 110 assistant professors, instructors and assistants, a total of 142. The course covers four years of thirty-four weeks each. Two years of collegiate work are required for admission. Total fees for each of the four years, respectively, are $245, $235, $220 and $250. The Dean is Dr. Charles C. Bass. The total registration for 1924-1925 was 383; graduates, 87. The ninety-first session begins Sept. 24, 1925, and ends June 9, 1926.

MARYLAND

Maryland, with a population of 1,449,661, contains two medical colleges, located in Baltimore, a city with 733,826 inhabitants. They are as follows: Johns Hopkins University Medical Department, and the University of Maryland School of Medicine and College of Physicians and Surgeons.

To be eligible to practice medicine in Maryland, students, in addition to a four-year high school education, must complete at least two years of college work including courses in physics, chemistry, biology and French or German, prior to beginning the study of medicine.

Baltimore

JOHNS HOPKINS UNIVERSITY MEDICAL DEPARTMENT, Washington and Monument Streets.—Organized in 1893. The first class graduated in 1897. The faculty consists of 55 professors and 182 clinical professors, etc., a total of 237. The requirements for admission demand that the applicant either has (*a*) completed the chemical-biologic course which leads to the A.B. degree in the university, or (*b*) graduated at an approved college or scientific school and has a knowledge of French and German (two years each of college instruction), physics and biology, such as may be obtained from a year's course, and a three years' course in chemistry. The course extends over four years of eight and one-half months each. The total fees for each of the four years are, respectively, $310, $310, $310 and $317. The Dean is Dr. Lewis H. Weed. Total registration for 1924-1925 was 294; graduates, 78. The thirty-third session begins Sept. 28, 1925, and ends June 8, 1926.

UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE AND THE COLLEGE OF PHYSICIANS AND SURGEONS, Lombard and Greene Streets.—Organized in 1807 as the College of Medicine of Maryland. The first class graduated in 1810. In 1812 it became the University of Maryland School of Medicine. Baltimore Medical College was merged into it in 1913. In 1915 the College of Physicians and Surgeons was merged and the present name assumed. The faculty consists of 80 professors and 125 instructors and assistants, a total of 80. Two years of college work are required for admission. The course covers four years of eight months each. The total fees are $270 each year for residents of the state; $320 each year for nonresidents. The Dean is Dr. J. M. H. Rowland. Total registration for 1924-1925 was 354; graduates, 83. The one hundred and nineteenth session begins Sept. 28, 1925, and ends June 5, 1926.

MASSACHUSETTS

Massachusetts, population 3,852,356, has five medical colleges: Medical School of Harvard University, Boston University School of Medicine, Tufts College Medical School, College of Physicians and Surgeons and the Middlesex College of Medicine and Surgery. They are all situated in Boston, a city of 748,060, except the last named, which is in Cambridge, a city of 109,694.

Boston

MEDICAL SCHOOL OF HARVARD UNIVERSITY, 240 Longwood Avenue.—Organized in 1782. The first class graduated in 1788. It has a faculty of 104 professors and 218 instructors and assistants, a total of 322. Candidates for admission must present a college degree or two years of work leading to such a degree with standing in the upper third of the class. The college work must include a year of physics, biology, general chemistry, a half year of organic chemistry, and a reading knowledge of French or German. The total fee for each of the four years is $300 plus $5 the first year for matriculation. The Dean is Dr. David L. Edsall. The total registration for 1924-1925 was 506; graduates, 126. The one hundred and forty-third session begins Sept. 28, 1925, and ends June 24, 1926.

BOSTON UNIVERSITY SCHOOL OF MEDICINE, 80 East Concord Street.—Organized in 1873. In 1874 the New England Female Medical College, founded in 1848, was merged into it. The first class graduated in 1874. Became nonsectarian in 1918. Two years of collegiate work are required for admission. The faculty includes 21 professors, 93 associates, etc., making a total of 114. The course covers four years of thirty-two weeks each. Total fees for each of the four years, respectively, are $306, $306, $306 and $316. The Dean is Dr. Alexander S. Begg. Total registration for 1924-1925 was 210; graduates, 50. The fifty-third session begins Sept. 21, 1925, and ends June 14, 1926.

TUFTS COLLEGE MEDICAL SCHOOL, 416 Huntington Avenue.—Organized in 1893 as the Medical Department of Tufts College. The first class graduated in 1894. It has a faculty of 47 professors and 114 assistants, lecturers, etc., a total of 161. Two years of collegiate work are required for admission. The course covers four years of eight months each. The total fees for each of the four years are $305, $300, $300 and $310. The Dean is Dr. Stephen Rushmore. Total registration for 1924-1925 was 476; graduates, 104. The thirtieth session begins Sept. 16, 1925, and ends May 29, 1926.

COLLEGE OF PHYSICIANS AND SURGEONS, 517 Shawmut Avenue.—Organized in 1880. The first class graduated in 1882. Total attendance of medical students, 1924-1925 was about 20. There were 4 graduates. *This college has been reported not recognized by the Massachusetts Medical Society and by the licensing boards of forty-seven states.*

Cambridge

MIDDLESEX COLLEGE OF MEDICINE AND SURGERY, Cambridge.—Organized in 1914 under the charter of the Worcester Medical College, which became extinct in 1859. A class was graduated in 1915 and each subsequent year. Was closely related in its interests with an osteopathic college and granted a liberal advanced standing for work done in osteopathic colleges. No students or graduates were reported for the session of 1924-1925. *This college has been reported as not recognized by licensing boards of forty-seven states.* In connection with the medical licensure investigation in Connecticut in 1924 a drastic report in regard to this college was issued by the Special Grand Jury, March 14, 1924. (See THE JOURNAL, March 29, 1924, page 1062.)

MICHIGAN

Michigan, population 3,668,412, has two medical colleges: the University of Michigan Medical School, located at Ann Arbor, a city of 19,516 people, and the Detroit College of Medicine and Surgery, located at Detroit, a city of 993,678 inhabitants.

Students who desire to practice medicine in Michigan, in addition to an accredited four-year high school education, must complete two years of work in an approved college of liberal arts, including college courses in physics, chemistry, biology and French or German, prior to beginning the study of medicine. Candidates must also have completed an internship in a hospital.

Ann Arbor

UNIVERSITY OF MICHIGAN MEDICAL SCHOOL.—Organized in 1850 as the University of Michigan Department of Medicine and Surgery. The first class graduated in 1851. Present title assumed in 1915. It has a faculty composed of 22 professors, 23 assistant and associate professors and 110 associates, instructors, etc., a total of 155. The entrance requirements are two years of college work, including courses in chemistry, physics and biology, with laboratory work, and a reading knowledge of French or German. The curriculum embraces four years of nine months each. The total fees for Michigan students are for men, $180 per year, and for women $175 per year, plus a matriculation fee of $10.00; for nonresidents, $80 per year additional. The matriculation fee for nonresidents is $25. The Dean is Dr. Hugh Cabot. The total registration for 1924-1925 was 533, graduates, 158. The seventy-sixth session begins Sept. 22, 1925, and ends June 14, 1926.

Detroit

DETROIT COLLEGE OF MEDICINE AND SURGERY, 1516 St. Antoine St.—Organized as the Detroit College of Medicine in 1885 by consolidation of Detroit Medical College, organized in 1868, and the Michigan College of Medicine, organized in 1880. Reorganized with present title in 1913. The first class graduated in 1886. In 1918 it became a municipal institution under the control of the Detroit Board of Education. Entrance requirements are two years of college work. The faculty embraces 34 professors, 95 lecturers, etc., a total of 129. The course covers four years of nine months each and a fifth hospital intern year. The total fees each year for residents of Detroit are $175; for nonresidents, $250. The Dean is Dr. W. H. MacCraken. The total registration for 1924-1925 was 208; graduates, 27. The forty-first session begins Oct. 1, 1925, and ends June 19, 1926.

MINNESOTA

Minnesota, population 2,387,125, contains one medical school, the University of Minnesota Medical School, situated in Minneapolis, a city of 380,582 inhabitants.

Students intending to practice medicine in Minnesota, in addition to an accredited four-year high school education, must complete two years of college work the equivalent of that done in the liberal arts department of the University of Minnesota, including courses in physics, chemistry and biology, prior to beginning the study of medicine.

Minneapolis

UNIVERSITY OF MINNESOTA MEDICAL SCHOOL.—Organized in 1883 as the University of Minnesota College of Medicine and Surgery, reorganized in 1888 by absorption of St. Paul Medical College and Minnesota Hospital College. The first class graduated in 1889. In 1908 the Minneapolis College of Physicians and Surgeons, organized in 1883, was merged. In 1909 the Homeopathic College of Medicine and Surgery was merged. Present title in 1913. The faculty includes 123 professors and 159 instructors and assistants, a total of 282. The curriculum covers four years of nine months each, and a year's internship in an approved hospital. The school is operated on the four-quarter plan. The entrance requirements are two years of university work, which must include six semester credits of rhetoric, eight semester credits of physics; thirteen credits of general chemistry, qualitative and quantitative analysis and organic chemistry; eight credits of zoology, and a reading of scientific French or German. Students are required to secure a degree of B.S. or A.B. before receiving the degree of Bachelor of Medicine (M.B.) which is granted at the end of the four-year course. The M.D. is conferred after a year of intern work or of advanced laboratory work has been completed. Classes are graduated three a year, in March, June and December. Total fees are $189 for residents and $219 for nonresidents, each year of three quarters. The Dean is Dr. E. P. Lyon. The total registration for 1924-1925 was 425; graduates, 105. The thirty-seventh session begins Sept. 28, 1925, and ends June 12, 1926. The summer quarter began June 22.

MISSISSIPPI

Mississippi, population 1,790,618, has one medical college, the Department of Medicine of the University of Mississippi, which is located at Oxford, a city of 2,150 inhabitants.

Students desiring to practice medicine in Mississippi, in addition to a standard four-year high school education, must complete two years of work in an approved college or univer-

sity, including courses in physics, chemistry, biology and a modern language, before entering on the study of medicine.

Oxford

UNIVERSITY OF MISSISSIPPI SCHOOL OF MEDICINE.—Organized in 1903. Gives only the first two years of the medical course. In 1908 a clinical department was established at Vicksburg, but was discontinued in 1910 after graduating one class. The session extends over eight and a half months. Entrance requirements are two years of collegiate work. The total fees each year for residents are $163; for nonresidents, $50 per year additional. The faculty numbers 17. The Dean is Dr. J. O. Crider. The total registration for 1924-1925 was 64. The twenty-third session begins Sept. 16, 1925, and ends June 1, 1926.

MISSOURI

Missouri, population 3,404,055, has six medical colleges. The School of Medicine of the University of Missouri is at Columbia, a town of 10,392 people. St. Louis, population 772,897, contains three medical schools, viz., the School of Medicine of St. Louis University, Washington University Medical School, and the St. Louis College of Physicians and Surgeons. Kansas City, which, with Kansas City, Kansas, has a population of 433,261, has two colleges, the Kansas City College of Medicine and Surgery and the Kansas City University of Physicians and Surgeons. The last three are reported as not approved or reputable by the Missouri State Board of Health.

Columbia

UNIVERSITY OF MISSOURI SCHOOL OF MEDICINE.—Organized at St. Louis in 1845; was discontinued in 1855, but was reorganized at Columbia in 1872. Teaching of the clinical years was suspended in 1909. The faculty includes 15 professors and 13 assistant professors, lecturers, etc., a total of 28. The course covers two years of thirty-five weeks each. The entrance requirements are two years of college work including French or German, 8 hours; general zoology, 8 hours; physics, 8 hours; inorganic chemistry, 8 hours; organic chemistry, 5 hours, and general bacteriology, 3 hours. Total fees each year are $125 and $113. Nonresidents of the state pay $10 per term extra. The Dean is Dr. Guy L. Noyes. Total registration for 1924-1925 was 80. The next session begins Sept. 16, 1925, and ends June 5, 1926.

Kansas City

KANSAS CITY COLLEGE OF MEDICINE AND SURGERY, Twenty-Third and Holmes Streets.—Organized in 1915 as an offshoot of the Eclectic Medical University, a Class C medical school, now extinct. It claims to be an eclectic college, but is reported not recognized as such by the National Eclectic Medical Association. No students or graduates were reported for 1924-1925. *Reported not recognized by the Missouri State Board of Health and by the licensing boards of forty-six other states,* no higher rating can be granted to it, pending an inspection, which it has refused. Was closely involved in the Missouri diploma mill scandal as shown by the drastic report regarding it issued by the Connecticut Special Grand Jury, March 14, 1924. (See THE JOURNAL, April 12, 1924, page 1219.)

KANSAS CITY UNIVERSITY OF PHYSICIANS AND SURGEONS, 729 Troost Street.—Originally chartered in 1903 as the Central College of Osteopathy; charter amended in 1917, by which it obtained the right to grant degrees in medicine, and the name was changed to the Central College Medical Department. Present title in 1918. Very liberal advanced standing allowed for work done in osteopathic colleges; reported as still having osteopathic classes. No students or graduates were reported for 1924-1925. Rated Class C by the Council on Medical Education and Hospitals. *Reported not recognized by the licensing boards of Missouri and of forty-seven other states.*

St. Louis

WASHINGTON UNIVERSITY SCHOOL OF MEDICINE, Kingshighway and Euclid Avenue.—Organized in 1842 as the Medical Department of St. Louis University. In 1835 it was chartered as an independent institution under the name of St. Louis Medical College. The first class graduated in 1843. In 1891 it became the Medical Department of Washington University. In 1899 it absorbed the Missouri Medical College. The faculty comprises 37 professors and 130 lecturers, instructors, etc., a total of 167. Two years of college work are required for admission, including courses in English, physics, chemistry and biology, and a reading knowledge of German or French. The course is four years of eight months each. The total fees for the four years are, respectively, $317, $312, $312 and $317. The Dean is Dr. McKim Marriott. The total registration for 1924-1925 was 291; graduates, 75. The next session begins Sept. 24, 1925, and ends June 10, 1926.

ST. LOUIS UNIVERSITY SCHOOL OF MEDICINE, 1402 South Grand Avenue.—Organized in 1901 as the Marion-Sims-Beaumont Medical College by union of Marion-Sims Medical College, organized in 1890, and Beaumont Hospital Medical College, organized in 1886. First class graduated in 1902. It became the Medical Department of St. Louis University in 1903. The faculty is composed of 78 professors and 171 lecturers and assistants, a total of 249. Two years of collegiate work are required for admission. The curriculum covers four years of thirty-two weeks each. The summer season is optional. The total fees are $320 each year. The Dean is Dr. Hanau W. Loeb. The total registration for 1924-1925 was 463; graduates, 94. The next session begins Oct. 1, 1925, and ends June 1, 1926.

ST. LOUIS COLLEGE OF PHYSICIANS AND SURGEONS, Jefferson and Gamble Streets.—Organized in 1869. Classes graduated in 1870 and each subsequent year until 1873, when it suspended. Reorganized in 1879. Classes graduated in 1880 and subsequent years until 1915, when it merged with the Medical Department of the National University of Arts and Sciences. Reestablished in 1916. Registration during 1924-1925 was approximately 35; graduates, about 10. *This college is reported as not recognized by the licensing boards of Missouri and forty-seven others states.* This school was closely involved with the Missouri diploma mill ring which was exposed in 1923 as shown by the drastic report regarding it issued by the Connecticut Special Grand Jury, March 14, 1924. (See THE JOURNAL, April 5, 1924, page 1140.)

NEBRASKA

Nebraska, population 1,296,372, has two medical colleges, the University of Nebraska College of Medicine and the Creighton University College of Medicine, both in Omaha, population 191,601.

Omaha

CREIGHTON UNIVERSITY COLLEGE OF MEDICINE, Fourteenth and Davenport Streets.—Organized in 1892 as the John A. Creighton Medical College. Present title in 1921. The first class graduated in 1893. It has a faculty of 35 professors and 43 instructors, lecturers and assistants, a total of 78. Two years of collegiate work are required for admission. The course of study embraces four years of eight months each. The total fees each year for the four years are, respectively, $195, $190, $190 and $200. The Dean is Dr. Hermann von W. Schulte. Total registration for 1924-1925 was 171; graduates, 37. The forty-fourth session begins Sept. 24, 1925, and ends June 3, 1926.

UNIVERSITY OF NEBRASKA COLLEGE OF MEDICINE, Forty-Second Street and Dewey Avenue.—Organized in 1881 as the Omaha Medical College. The first class graduated in 1882. It became the Medical Department of Omaha University in 1891. In 1902 it affiliated with the University of Nebraska, with the present title. The first two years were given at Lincoln and the last two in Omaha until 1913, when all four years were transferred to Omaha. The faculty is composed of 48 professors and 63 lecturers and instructors, total 111. Two years of collegiate work are required for admission, including courses in physics, chemistry and zoology. The fees for each of the four years, respectively, are $180, $170, $160 and $160. The Dean is Dr. J. Jay Keegan. Total registration for 1924-1925, was 334; graduates, 103. The next session begins Sept. 21, 1925, and ends June 5, 1926.

NEW HAMPSHIRE

New Hampshire, population 443,083, has one medical college, located at Hanover, population 1,551.

Students desiring to practice medicine in New Hampshire, in addition to a four-year high school education, must complete at least two years of work in an approved college of liberal arts, prior to beginning the study of medicine.

DARTMOUTH MEDICAL SCHOOL.—Organized as New Hampshire Medical Institute in 1797. The first class graduated in 1798. It is under the control of the trustees of Dartmouth College. Clinical teaching was discontinued in 1914. The faculty is made up of 12 professors and 4 instructors, a total of 16. Three years of collegiate work are required for admission. The course covers nine calendar months in each year, or eight months of actual teaching. Candidates for the A.B. or B.S. degree in Dartmouth College may substitute the work of the first year in medicine for that of the senior year in the academic department. The fees for each year are $310. Dean, Dr. John M. Gile. The total registration for 1924-1925 was 39. The next session opens Sept. 16, 1925, and ends June 22, 1926.

NEW YORK

New York State, population 10,384,829, has nine medical colleges. Five of these, College of Physicians and Surgeons (Columbia University), Cornell University Medical College, the University and Bellevue Hospital Medical College, Long Island College Hospital and the New York Homeopathic Medical College and Flower Hospital, are located in New York City, population 5,620,048. Albany Medical College is located in Albany, a city of 113,344 people. The University of Buffalo Medical Department is situated in Buffalo, population 506,775. The College of Medicine, Syracuse University, is in Syracuse, a city of 171,717 inhabitants. The University of Rochester School of Medicine is located in Rochester, a city of 295,750 inhabitants.

Students who desire to practice in New York must complete two years of college work before entering on the study of medicine.

Albany

ALBANY MEDICAL COLLEGE, 58-64 Eagle Street.—Organized in 1838. The first class graduated in 1839. It became the Medical Department of Union University in 1873. In 1915 Union University assumed educational control. The faculty is composed of 24 professors and 76 instructors, assistants, etc., a total of 100. Two years of collegiate work, including college courses in physics, chemistry (including organic

and analytic), biology, English, and a modern foreign language, are required for admission. The curriculum covers four years of eight months each. The total fees for the four years, respectively, are $320, $305, $305 and $305. The Dean is Dr. Thomas Ordway. The total registration for 1924-1925 was 83; graduates, 16. The ninety-fifth session begins Sept. 21, 1925, and ends June 14, 1926.

Buffalo

UNIVERSITY OF BUFFALO MEDICAL DEPARTMENT, High Street, near Main.—Organized in 1846. The first class graduated in 1847. It absorbed the Medical Department of Niagara University in 1898. The faculty is composed of 53 professors and 97 lecturers, assistants, etc., a total of 150. Two years of collegiate work, including college courses in physics, chemistry, biology, English and French or German are required for admission. The course covers four years of eight months each. The total fees for each of the four years are $327, $317, $317 and $327. The Dean is Dr. C. Sumner Jones. Total registration for 1924-1925 was 238; graduates, 51. The eightieth session begins Sept. 21, 1925, and ends June 9, 1926.

New York

COLUMBIA UNIVERSITY COLLEGE OF PHYSICIANS AND SURGEONS, 437 West Fifty-Ninth Street.—Organized in 1807 by the regents of the University of the State of New York as their medical department. The first class graduated in 1811. In 1860 it became, by affiliation, the Medical Department of Columbia College. It was made a permanent part of Columbia College by legislative enactment in 1891. That institution became Columbia University in 1896. The faculty is composed of 117 professors and 226 instructors, demonstrators, etc., a total of 343. Two years of collegiate work of 72 points, including courses in physics, chemistry, biology, English and either French or German, are required for admission. The work covers four years of eight months each. The Dean is Dr. William Darrach. The total fees for the four years, respectively, are $332, $332, $332 and $352. Total registration for 1924-1925 was 397; graduates, 93. The one hundred and eighteenth session begins Sept. 23, 1925, and ends June 2, 1926.

CORNELL UNIVERSITY MEDICAL COLLEGE, First Avenue and Twenty-Eighth Street, New York City, and Ithaca.—Organized in 1898. The first class was graduated in 1899. The work of the first year may be taken either in Ithaca or in New York. The faculty is composed of 71 professors and 122 assistants, lecturers, instructors, etc., a total of 193. All candidates for admission must be graduates of approved colleges or scientific schools or seniors of approved colleges which will permit them to substitute the first year of this medical school for the fourth year of their college course and will confer on them the Bachelor degree on the completion of the year's work. The candidate must also have a knowledge of physics, chemistry, biology, English and a modern language. The fees for each of the four years are, respectively, $345, $335, $335 and $350. The Dean is Dr. Walter L. Niles. Total registration for 1924-1925 was 262; graduates, 57. The twenty-eighth session begins Sept. 28, 1925, and ends June 10, 1926.

LONG ISLAND COLLEGE HOSPITAL, 350 Henry Street, Brooklyn.—Organized in 1858. The first class graduated in 1860. It has a faculty of 68 professors and 94 assistants, instructors, etc., a total of 162. Two years of collegiate work, including college courses in physics, chemistry and biology, are required for admission. The course covers four years of eight months each. The fees for the four years, respectively are $360, $350, $375 and $380. The Dean is Prof. Adam M. Miller. Total registration for 1924-1925 was 388; graduates, 97. The sixty-eighth session begins Sept. 21, 1925, and ends June 8, 1926.

NEW YORK HOMEOPATHIC MEDICAL COLLEGE AND FLOWER HOSPITAL, Eastern Boulevard, between Sixty-Third and Sixty-Fourth Streets.—Organized in 1858. Incorporated in 1860 as the Homeopathic Medical College of the State of New York. The title New York Homeopathic Medical College was assumed in 1869. Present title assumed in 1908. The first class graduated in 1861. The course covers four years of eight months each. It has a faculty of 45 professors and 47 lecturers and assistants, a total of 92. The total fees for the four years are respectively, $360, $350, $350 and $330. The Dean is Israel S. Kleiner, Ph.D. Total registration for 1924-1925 was 186; graduates, 32. The sixty-sixth session begins Sept. 18, 1925, and ends May 8, 1926.

UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE, 338 East Twenty-Sixth Street.—Organized in 1898 by the union of the New York University Medical College, organized in 1841, and the Bellevue Hospital Medical College, organized in 1861. It is the Medical Department of New York University. First class graduated in 1899. The faculty is composed of 78 professors, associate professors and assistant professors, and 111 lecturers, instructors, etc., in all, 189. The course covers four years of eight months each. Entrance requirements are 72 semester hours of collegiate work in a registered college leading to a bachelor's degree, including courses in physics, chemistry and biology. The fees for each of the four years, respectively, are $377, $379, $364 and $352. The Dean is Dr. Samuel A. Brown. Total registration for 1924-1925 was 421; graduates, 102. The next session begins Sept. 16, 1925, and ends June 9, 1926.

Rochester

UNIVERSITY OF ROCHESTER SCHOOL OF MEDICINE, Elmwood Ave.—Organized in 1925 as the Medical Department of the University of Rochester. The faculty is composed of 12 professors, 7 lecturers, assistants, instructors, etc., a total of 19. The work embraces a graded course of 4 years of 9 months each. Three years of collegiate work are required for admission. Twenty-five students will be accepted to the first year class. The total fees for each year are $300. The Dean is Dr. George H. Whipple. The first session begins Sept. 17, 1925, and ends July 21, 1926.

Syracuse

SYRACUSE UNIVERSITY COLLEGE OF MEDICINE, 307-311 Orange Street.—Organized in 1872, when the Geneva Medical College, chartered in 1834, was removed to Syracuse, under the title "The College of Physicians and Surgeons of Syracuse University." Present title assumed in 1875, when a compulsory three-year graded course was established. The first class graduated in 1873 and a class graduated each subsequent year. In 1889 the amalgamation with the university was made complete. Course extended to four years in 1896. The faculty is composed of 28 professors and 88 associate and assistant professors, lecturers and instructors, a total of 116. Two years of a recognized college course are required for admission. The course covers four years of thirty-four weeks each. The fees for each of the first three years are $335, for the fourth year $345. The Dean is Dr. Herman G. Weiskotten. The total enrolment for 1924-1925 was 183; graduates, 43. The fifty-fifth session begins Sept. 21, 1925, and ends June 14, 1926.

NORTH CAROLINA

North Carolina, population 2,559,123, has two medical schools, each of which gives only the first two years of the medical course. The School of Medicine of the University of North Carolina is located at Chapel Hill, population 1,483. Wake Forest College School of Medicine is at Wake Forest, population 1,425.

Students intending to practice medicine in North Carolina must complete two years of college work including courses in physics, chemistry and biology in addition to 14 units of high school work before beginning the study of medicine.

Chapel Hill

UNIVERSITY OF NORTH CAROLINA SCHOOL OF MEDICINE.—Organized in 1890. Until 1902 this school gave only the work of the first two years, when the course was extended to four years by the establishment of a department at Raleigh. The first class graduated in 1903. A class was graduated each subsequent year, including 1910, when the clinical department at Raleigh was discontinued. Two years of collegiate work are required for admission. The faculty is composed of 9 professors and 4 lecturers, assistants, etc., a total of 13. The fees for each year are $195. The Dean is Dr. I. H. Manning. The total registration for 1924-1925, was 77. The fortieth session begins Sept. 17, 1925, and ends June 4, 1926.

Wake Forest

WAKE FOREST COLLEGE SCHOOL OF MEDICINE.—This school was organized in 1902. The faculty, including the professors of chemistry, physics and biology, numbers 10 professors and 6 assistants. Only the first two years of the medical course are offered. After the completion of freshman and sophomore college work and two years of medicine, a certificate will be given. The B.S. degree in medicine will be given only after completion of three years of college work and two years of medicine. Each annual course extends over nine months. The fees for each year aggregate $200. The Dean is Dr. Thurman D. Kitchin. The total registration for 1924-1925 was 49. The twenty-fourth session begins Sept. 15, 1925, and ends June 4, 1926.

NORTH DAKOTA

North Dakota, population 645,680, has one medical college, the School of Medicine of the University of North Dakota, which is situated at University, a suburb of Grand Forks, a city of 14,010 people. It gives only the first two years of the medical course.

Students intending to practice medicine in North Dakota, in addition to a four-year high school education, must complete two years of work in an approved college of liberal arts including courses in Latin, physics, chemistry, botany and zoology, prior to beginning the study of medicine, and must show evidence of having spent at least one year as an intern in a hospital.

University

UNIVERSITY OF NORTH DAKOTA SCHOOL OF MEDICINE.—Organized in 1905. Offers only the first two years of the medical course. Two years' work in a college of liberal arts is required for admission. The fees are about $60 each year. The faculty consist of 6 professors and 9 instructors, a total of 15. The Dean is Dr. H. E. French. The total registration for 1924-1925 was 44. The twentieth session begins Sept. 19, 1925, and ends June 15, 1926.

OHIO

Ohio, population 5,759,394, has four medical colleges. Two of these, the Medical College of the University of Cincinnati and the Eclectic Medical College, are located in Cincinnati, a city of 401,247 inhabitants. Cleveland, population 796,841, contains one medical school, Western Reserve University School of Medicine. Columbus, population 237,031, contains the Ohio State University College of Medicine.

Cincinnati

UNIVERSITY OF CINCINNATI COLLEGE OF MEDICINE, Eden Avenue, Cincinnati General Hospital.—Organized in 1909 by the union of the Medical College of Ohio (founded in 1819) with the Miami Medical College (founded in 1852). The Medical College of Ohio became the Medical Department of the University of Cincinnati in 1896. Under a similar agreement, March 2, 1909, the Miami Medical College also merged into the University, when the title of Ohio-Miami Medical College of the University of Cincinnati was taken. Present title assumed in 1915. Two years of college work are required for admission. The faculty consists of 80 professors and 125 associates, assistants, etc., a total of 205. The course covers four years of eight months each. In 1926 a year's internship in an approved hospital will be required. The fees for each of the four years are $320. The Dean is Dr. Arthur C. Bachmeyer. The total registration for 1924-1925 was 253; graduates, 65. The next session begins Sept. 21, 1925, and ends June 12, 1926.

ECLECTIC MEDICAL COLLEGE, 630 West Sixth Street.—Organized in 1833 at Worthington as the Worthington Medical College. Removed to Cincinnati in 1843. In 1845 it was chartered as the Eclectic Medical Institute. In 1857 the American Medical College, organized in 1839, was merged into it, and in 1859 the Eclectic College of Medicine and Surgery, organized in 1856, was merged into it. In 1910 it assumed its present title. Classes were graduated in 1833 and in all subsequent years except 1839 to 1843, inclusive. It has a faculty of 29 professors and 23 lecturers and assistants, a total of 52. Two years of college work are required for admission. The course covers four years of eight months each. The total fees for the four years, respectively, are $220, $210, $210 and $210. The Dean is Dr. R. L. Thomas. Total registration for 1924-1925 was 148; graduates, 38. The next session begins Sept. 17, 1925, and ends May 17, 1926.

Cleveland

WESTERN RESERVE UNIVERSITY SCHOOL OF MEDICINE, 2109-15 Adelbert Road.—Organized in 1843 as the Cleveland Medical College. The first class graduated in 1844. It assumed the present title in 1881. In 1910 the Cleveland College of Physicians and Surgeons was merged. The faculty includes 19 professors and 150 lecturers, assistants, etc., a total of 169. The curriculum embraces three years of eight and one-half months each and one year of eleven months. Three years of college work are required for admission. The total fees for each of the four years are, respectively, $275, $260, $250 and $260. The Dean is Dr. C. A. Hamann. The total registration for 1924-1925 was 209; graduates, 40. The eighty-third session begins Oct. 1, 1925, and ends June 17, 1926.

Columbus

OHIO STATE UNIVERSITY COLLEGE OF MEDICINE, 710 North Park Street.—Organized in 1907 as the Starling-Ohio Medical College by the union of Starling Medical College (organized 1847) with the Ohio Medical University (organized 1890). In 1914 it became an integral part of the Ohio State University with its present title. The faculty consists of 48 professors and 65 lecturers, demonstrators, etc., a total of 113. Two years of collegiate work are required for admission. The course covers four years of 34 weeks each. Tuition fees are $180 each year for residents of Ohio; for nonresidents, the fees are $285. The Dean is Dr. Eugene F. McCampbell. The total registration for 1924-1925 was 325; graduates, 89. The next session begins Sept. 29, 1925, and ends June 15, 1926.

OKLAHOMA

Oklahoma, population 2,028,283, has one medical college, the School of Medicine of the University of Oklahoma. The work of the first and second years is given on the academic campus at Norman, a city of about 5,004 inhabitants. The work of the third and fourth years is given in Oklahoma City, which has a population of 91,295 and which is eighteen miles north of Norman.

Students intending to practice medicine in Oklahoma, in addition to a four-year high school education, must complete two years of work in an approved college of liberal arts, including courses in physics, chemistry, biology and a modern language prior to beginning the study of medicine.

Norman and Oklahoma City

UNIVERSITY OF OKLAHOMA SCHOOL OF MEDICINE.—Organized in 1900. Gave only the first two years of the medical course at Norman until 1910, when a clinical department was established at Oklahoma City. The first class graduated in 1911. It has a faculty of 45 professors and associate professors, 38 assistant professors and instructors, a total of 83. Two years of college work are required for admission. The course is four years of nine months each. An optional course of six years is offered for the degrees of B.S. and M.D. The total fees for the four years are, respectively, $63, $65, $70 and $21. For students residing outside the State of Oklahoma there is a tuition fee of $200 per year. The Dean is Dr. LeRoy Long, School of Medicine Building, Third and Stiles Street, Oklahoma City, Okla. The total registration for 1924-1925 was 170; graduates, 29. The twenty-sixth session begins Sept. 17, 1925, and ends June 8, 1926.

OREGON

Oregon, population 783,389, has one medical college, the University of Oregon Medical School, located in Portland, a city of 258,288 population.

Portland

UNIVERSITY OF OREGON MEDICAL SCHOOL, Marquam Hill.—Organized in 1887. The first class graduated in 1888, and a class graduated each subsequent year except 1898. The Willamette University Medical Department was merged in 1913. It has a faculty of 54 professors and 90 lecturers, assistants, etc., a total of 144. Entrance requirements are three years of college work or its equivalent. The course is four years of thirty-four weeks each. The total fees for the four years are, respectively, $195, $190, $190 and $190 for residents of Oregon, and $60 per year additional for nonresidents. The Dean is Dr. Richard B. Dillehunt. The total registration for 1924-1925 was 210; graduates, 45. The thirty-ninth session begins Sept. 29, 1925, and ends June 14, 1926.

PENNSYLVANIA

Pennsylvania, population 8,720,017, has six medical colleges. Of these, Philadelphia, having a population of 1,823,779, contains five, as follows: University of Pennsylvania School of Medicine, Jefferson Medical College, Hahnemann Medical College and Hospital, Woman's Medical College of Pennsylvania and Temple University Department of Medicine. The other school, the School of Medicine of the University of Pittsburgh, is situated in Pittsburgh, a city of 588,343.

Students intending to practice medicine in Pennsylvania, in addition to a four-year high school education, must complete a year's work in an approved college of liberal arts, including college courses in physics, chemistry and biology, before beginning the study of medicine. They must also have completed an internship of at least one year in an approved hospital.

Philadelphia

UNIVERSITY OF PENNSYLVANIA SCHOOL OF MEDICINE, Thirty-Sixth Street and Hamilton Walk.—Organized in 1765. Classes were graduated in 1768 and in all subsequent years except 1772-1779, inclusive. The original title was the Department of Medicine, College of Philadelphia. The present title, School of Medicine of the University of Pennsylvania, was adopted in 1909. It granted the first medical diploma issued in America. In 1916 it took over the Medico-Chirurgical College of Philadelphia to develop it as a graduate school. The faculty consists of 64 professors, associate and assistant professors, and 152 lecturers, associates, instructors, etc., a total of 216. Three years of college work are required for admission including courses in physics, biology or zoology, chemistry, including general inorganic, organic and analytical, English and French or German. The first class is limited to 110 students; third and fourth to 135 each. The course embraces four years of study of thirty-three weeks each. The total fees for each of the four years are, respectively, $333, $325, $325 and $329 for men and $15 less per year for women students. The Dean is Dr. William Pepper. Total registration for 1924-1925 was 471; graduates, 131. The one hundred and sixtieth session begins Sept. 25, 1925, and ends June 16, 1926.

JEFFERSON MEDICAL COLLEGE, Tenth and Walnut Streets.—Organized in 1825 with its present title as the Medical Department of Jefferson College, Cannonsburg, Pa. Classes have been graduated annually since 1826. In 1838 a separate university charter was granted without change of title, since which time it has continued under the direction of its own board of trustees. It has a faculty of 45 professors, associate and assistant professors, and 134 associates, lecturers, demonstrators and instructors, a total of 179. Entrance requirements are a completed standard four-year high school or college preparatory course, or the equivalent, and in addition two years of work leading to a degree in an approved college of arts and science amounting to at least 60 semester hours, including specified courses in physics, general and organic chemistry and biology, with laboratory work in each subject. The course of study covers four years of eight and a half months each. The fees are about $325 each year, with a matriculation fee of $10 paid on admission. The Dean is Dr. Ross V. Patterson. The total registration for 1924-1925 was 573; graduates, 142. The one hundred and first session begins Sept. 23, 1925, and ends June 4, 1926.

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA, Twenty-First and N. College Avenue.—Organized in 1850. Classes were graduated in 1852 and in all subsequent years except 1862. It has a faculty of 17 professors and 52 assistants, lecturers, etc., in all, 69. Entrance requirements are a completed course in a standard secondary school, and in addition two years of collegiate work, including courses in physics, chemistry, biology and French or German. The curriculum covers four years of eight months each. Fees for each of the four years are, respectively, $400, $400, $400 and $450. The Dean is Dr. Martha Tracy. The total registration for 1924-1925 was 94; graduates, 30. The seventy-sixth session begins Sept. 23, 1925, and ends June 9, 1926.

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL OF PHILADELPHIA, 220-24 North Broad Street.—Organized in 1848 as the Homeopathic Medical College of Pennsylvania. In 1869 it united with the Hahnemann Medical College of Philadelphia, taking the latter title. Assumed present title in 1885. The first class graduated in 1849. Entrance requirements are a completed course in a standard secondary school and in addition two years devoted to a college course, including English and either French, German or Spanish, physics, chemistry and biology. It has a faculty of 52 professors and 62 lecturers, instructors, etc., in all, 114. The work covers four years of eight and a half months each. Total

fees for each year are, respectively, $275, $272, $272 and $272. The Dean is Dr. William A. Pearson. The total registration for the college year 1924-1925 was 224; graduates, 48. The seventy-eighth session begins Sept. 29, 1925, and ends June 4, 1926.

THE TEMPLE UNIVERSITY SCHOOL OF MEDICINE, Eighteenth and Buttonwood Streets.—Organized in 1901. The first class graduated in 1904. The faculty numbers 20 professors and 114 associates, assistants, etc., a total of 134. Two years of college work are required for admission. The fees for each of the four years, respectively, are $230, $225, $215 and $215. The Dean is Dr. Frank C. Hammond. The total registration for 1924-1925 was 220; graduates, 48. The twenty-fifth session begins Sept. 21, 1925, and ends June 18, 1926.

Pittsburgh

UNIVERSITY OF PITTSBURGH SCHOOL OF MEDICINE, Bigelow Boulevard.—Organized in 1886, as the Western Pennsylvania Medical College and in 1908 became an integral part of the University of Pittsburgh, removing to the university campus in 1910. The first class graduated in 1887. The faculty is composed of 18 professors and 142 associates, assistants, etc., 160 in all. Entrance requirements are two years of college work, including English, chemistry (inorganic and organic), physics, biology and a reading knowledge of French or German, Italian or Spanish. The course of study is four years of eight and a half months each. The total fees for the four years, respectively, are $327.50, $312.50, $312.50 and $322.50. The Dean is Dr. Raleigh R. Huggins. The total registration for 1924-1925 was 227; graduates, 47. The fortieth session begins Sept. 21, 1925, and ends June 9, 1926.

SOUTH CAROLINA

South Carolina, population 1,683,724, has one medical college, situated in Charleston, a city of 67,957 people.

Students intending to practice medicine in South Carolina must complete, in addition to 14 units of high school work, two years in an approved college, including courses in English, physics, chemistry and biology.

Charleston

THE MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA, 16 Lucas Street.—Organized in 1823 as the Medical College of South Carolina. The first class graduated in 1825. In 1832 a medical college bearing the present title was chartered and the two schools continued as separate institutions until they were merged in 1838. Classes were graduated in all years except 1862 to 1865, inclusive. In 1913, by legislative enactment, it became a state institution. It has a faculty of 36 professors and 25 lecturers, instructors, etc., a total of 61. The course covers four years of eight months each. Two years of collegiate work including courses in physics, chemistry, biology and a modern foreign language are required for admission, in addition to a standard high school preparation. The total fees are $165 annually. The Dean is Dr. Robert Wilson, Jr. Total enrolment for 1924-1925 was 156; graduates, 35. The ninety-seventh session begins Sept. 24, 1925, and ends June 3, 1926.

SOUTH DAKOTA

South Dakota, population 636,547, has one medical college, the University of South Dakota College of Medicine, located at Vermilion, a town of 2,590 people.

Students intending to practice medicine in South Dakota must show that they matriculated in and graduated from medical colleges which required at least two years of collegiate work for admission, including courses in physics, chemistry, biology and a modern language. They must also have completed a year's internship in an approved hospital.

Vermilion

UNIVERSITY OF SOUTH DAKOTA COLLEGE OF MEDICINE.—Organized in 1907. Offers only the first two years of the medical course. Two years' work in a college of liberal arts are required for admission. The fees are $100 each year. The faculty numbers 11. The Dean is Christian P. Lommen, B.S. The total registration for 1924-1925 was 40. The nineteenth session begins Sept. 16, 1925, and ends June 12, 1926.

TENNESSEE

Tennessee, population 2,337,885, has three medical colleges. Of these, Vanderbilt University School of Medicine and Meharry Medical College are situated in Nashville, a city with a population of 118,342. The College of Medicine of the University of Tennessee is located in Memphis, population 162,351.

Students intending to practice medicine in Tennessee must complete two years of collegiate work, including courses in physics, chemistry, biology and a modern language, in addition to a four-year high school course, before entering on the study of medicine.

Memphis

UNIVERSITY OF TENNESSEE COLLEGE OF MEDICINE, three buildings, 879 Madison Avenue.—Organized in 1876 at Nashville as Nashville Medical College. First class graduated 1877, and a class graduated each subsequent year. Became Medical Department of University of Tennessee in 1879. In 1909 it united with the Medical Department of the University of Nashville to form the joint Medical Department of the Universities of Nashville and Tennessee. This union was dissolved in 1911. The trustees of the University of Nashville by formal action of that board named the University of Tennessee College of Medicine as its legal successor. In 1911 it moved to Memphis, where it united with the College of Physicians and Surgeons. The Memphis Hospital Medical College was merged in 1913. Lincoln Memorial University Medical Department was merged in 1914. The faculty includes 54 professors and 98 assistants, instructors, etc., a total of 152. Entrance requirements are a high school education plus two years of collegiate work. Students taking the two-year premedical course in Knoxville may secure the B.S. and M.D. degrees. The total fees for the four years, respectively, are $107, $102, $102 and $127 for residents of the state, and $100 more each year for nonresidents. The Dean is Dr. James B. McElroy. Total registration for 1924-1925 was 219; graduates, 58. The next session begins Sept. 28, 1925, and ends June 7, 1926.

Nashville

VANDERBILT UNIVERSITY SCHOOL OF MEDICINE.—This school was founded in 1874. The first class graduated in 1875. The faculty consists of 43 professors and 73 lecturers, a total of 116. Beginning in 1925 students must have successfully completed at least three years of college work with such grades as will entitle them to receive the B.S. degree after one year in the School of Medicine. The course covers four years of nearly nine months each. The total fees for the four years, respectively, are $215, $215, $215 and $240. The Dean is G. Canby Robinson. The total registration for 1924-1925 was 181; graduates, 43. The fifty-second session begins Sept. 23, 1925, and ends June 9, 1926.

MEHARRY MEDICAL COLLEGE. Colored. 1118 First Avenue, South.—This school was organized in 1876 as the Medical Department of Central Tennessee College, which became Walden University in 1900. First class graduated in 1877. Obtained new charter independent of Walden University in 1916. The faculty is made up of 20 professors and 20 instructors, demonstrators, lecturers, etc., 40 in all. The work embraces four years of thirty-one weeks each. The total fees for the four years, respectively, are $160, $160, $160 and $180. The President is Dr. John J. Mullowney. Total registration for 1924-1925 was 206; graduates, 34. The fiftieth session begins Oct. 1, 1925, and ends May 20, 1926.

TEXAS

Texas, population 4,663,228, has two medical colleges. The University of Texas School of Medicine is located at Galveston, a city of 44,255 inhabitants. The Baylor University College of Medicine is located in Dallas, population 158,976.

Students intending to practice medicine in Texas must complete at least a year of collegiate work, including courses in physics, chemistry, biology and a modern language, in addition to a standard four-year high school course, before entering on the study of medicine. Beginning in 1926, two years of preliminary college work will be required.

Dallas

BAYLOR UNIVERSITY COLLEGE OF MEDICINE, 720 College Avenue.—Organized in 1900 as the University of Dallas Medical Department. In 1903 it took its present name and became the Medical Department of Baylor University. It acquired the charter of Dallas Medical College in 1904. The first class graduated in 1901. The faculty consists of 46 professors and 58 instructors and assistants, a total of 104. Entrance requirements are two years of college work in addition to a four-year high school education. The course is four years of eight months each. The fees for each of the four years, respectively, are $208, $198, $188 and $188. The Dean is Dr. Walter H. Moursund. Total registration for 1924-1925 was 243; graduates, 27. The twenty-sixth session begins Sept. 28, 1925, and ends May 31, 1926.

Galveston

UNIVERSITY OF TEXAS SCHOOL OF MEDICINE, Avenue B, between Ninth and Tenth Streets.—Organized in 1891. The first class graduated in 1892. It has a faculty of 15 professors and 31 lecturers and instructors, a total of 46. The curriculum embraces four years of eight months each. The entrance requirement is two years of collegiate work in addition to a four year high school education. The freshman class is limited to 60 students on a scholarship basis, Texans having preference. The total fees for the four years, respectively, are $198, $173, $175 and $173 for residents of the state, and $150 additional each year for nonresidents. The Dean is Dr. William Keiller. Total registration for 1924-1925 was 233; graduates, 57. The thirty-fifth session begins Oct. 1, 1925, and ends May 31, 1926.

UTAH

Utah, population 449,396, has one medical college, the School of Medicine of the University of Utah, situated at Salt Lake City, which has 118,110 people.

Students intending to practice medicine in Utah, in addition to a four-year high school education, must complete at least one year of collegiate work, including courses in physics, chemistry and biology, prior to beginning the study of medicine.

Salt Lake City

UNIVERSITY OF UTAH SCHOOL OF MEDICINE.—Organized in 1906. Gives only first two years of medical course. Each course covers thirty-six weeks. Three years of collegiate work are required for admission. The medical faculty consists of 8 professors and 10 lecturers and assistants, a total of 18. The fees are $150 each year. The Dean is Dr. Ralph O. Porter. Total registration for 1924-1925 was 46. The nineteenth session begins Sept. 27, 1925, and ends June 5, 1926.

VERMONT

Vermont, population 352,428, has one medical school, located at Burlington, a town of 22,779 people.

Students who desire to practice medicine in Vermont, in addition to a standard four-year high school education, must complete two years of collegiate work, including college courses in physics, chemistry and biology, before entering on the study of medicine.

Burlington

UNIVERSITY OF VERMONT COLLEGE OF MEDICINE, Pearl Street, College Park.—Organized with complete course in 1822. Classes graduated in 1823 to 1836, inclusive, when the school was suspended. It was reorganized in 1853 and classes were graduated in 1854 and in all subsequent years. The faculty includes 22 professors, 6 associate and assistant professors and 19 instructors, assistants, etc., a total of 47. Two years of college work in addition to a four-year high school education are required for admission. The course of study covers four years of nine months each. For residents of Vermont the total fees for each of the first three years are $200 and $225 for the fourth year. Nonresidents are charged an additional $100 each year. The Dean is Dr. H. C. Tinkham. The total registrations for 1924-1925 was 123; graduates, 43. The next session begins Sept. 16, 1925, and ends June 18, 1926.

VIRGINIA

Virginia, population 2,309,187, has two medical colleges, one, the Department of Medicine of the University of Virginia, situated in Charlottesville, population 10,688, and the Medical College of Virginia at Richmond, population 171,667.

Students desiring to practice in Virginia must be graduates of medical colleges which require that all students admitted shall have completed two years of collegiate work, including courses in physics, chemistry, biology and a modern language, preferably German, in addition to a four-year high school education.

Charlottesville

UNIVERSITY OF VIRGINIA DEPARTMENT OF MEDICINE.—Organized in 1827. Classes were graduated in 1828 and in all subsequent years except 1865. It has a faculty of 25 professors and 21 lecturers, instructors, assistants, etc., a total of 46. The requirements for admission are the completion of a four-year high school course, or its equivalent, and two years of college work devoted to English, mathematics, chemistry, physics and biology. Total fees for the four years, respectively, are $255, $255, $205 and $195. The Acting Dean is Dr. James C. Flippin. The total registration for 1924-1925 was 213; graduates, 53. The ninety-seventh session begins Sept. 17, 1925, and ends June 15, 1926.

Richmond

MEDICAL COLLEGE OF VIRGINIA, Twelfth and Clay Streets.—Organized in 1838 as the Medical Department of Hampden Sydney College. Present title was taken in 1854. In 1913 the University College of Medicine was merged. In 1914 the North Carolina Medical College was merged. Classes were graduated in 1840 and in all subsequent years. It has a faculty of 40 professors and 101 lecturers, instructors, etc., a total of 141. The requirement for admission is a four-year high school education and in addition two years of collegiate work, including courses in physics, chemistry, biology and English. The course embraces four years of eight months each. Total fees for the four years, respectively, are $295, $295, $286 and $316. The Dean is Dr. Manfred Call. The total registration for 1924-1925 was 306; graduates, 64. The eighty-seventh session begins Sept. 16, 1925, and ends June 1, 1926.

WEST VIRGINIA

West Virginia, population 1,463,701, has one medical college, the School of Medicine of West Virginia University, which offers the first two years of the medical course. It is located at Morgantown, a city of 12,127 population.

Students who desire to practice medicine in West Virginia must complete, in addition to a high school education, two years of collegiate work, including courses in physics, chemistry and biology, before entering on the study of medicine.

Morgantown

WEST VIRGINIA UNIVERSITY SCHOOL OF MEDICINE.—Organized in 1902, and gives only the first two years of the medical course. Two years of college work are required for admission and the Bachelor's degree will be granted to those who finish the two years in medicine. Session extends through nine months. The faculty numbers 16. Fees: For residents of the state, $95. each year; for nonresidents, $245. Cadets pay laboratory fees only. The Dean is Dr. John N. Simpson. The total registration for 1924-1925 was 111. The next session begins Sept. 22, 1925, and ends June 15, 1926.

WISCONSIN

Wisconsin, population 2,632,067, has two medical colleges, the Medical School of the University of Wisconsin, which teaches the first two years of the medical course, and is located at Madison, a city of 38,378 people, and the Marquette University School of Medicine, located at Milwaukee, a city of 457,147 people.

Students intending to practice medicine in Wisconsin, prior to entering a medical school, must complete, besides a four-year high school course, two years of collegiate work, including courses in physics, chemistry, biology and a modern language.

Madison

UNIVERSITY OF WISCONSIN MEDICAL SCHOOL.—Organized in 1907. For matriculation at least two years in a college of arts and science or an equivalent training are required, including two years of Latin, a reading knowledge of French or German, and at least a year's work in physics, chemistry and biology. It has a faculty of 26 professors and 54 lecturers, instructors, etc., a total of 80. Thus far the school has offered only the first two years of the medical course. In the fall of 1925 the work of the third year will be given, and in the fall of 1926 and thereafter the entire four-year course. Tuition fees: for residents of the state, $115 for first year and $95 for second year; for nonresidents, $210 for first year and $185 for second year. The Dean is Dr. Charles R. Bardeen. The registration for 1924-1925 was 165. The eighteenth session begins Sept. 23, 1925, and ends June 21, 1926.

Milwaukee

MARQUETTE UNIVERSITY SCHOOL OF MEDICINE, Fourth Street and Reservoir Avenue.—Organized in December, 1912, by the merger of the Milwaukee Medical College and the Wisconsin College of Physicians and Surgeons. It has a faculty of 118. The entrance requirements are two years of college work, including courses in physics, chemistry, biology and a modern language. The curriculum covers four years of eight and a half months each, plus an additional fifth year's internship in an approved hospital. The fees for the four years, respectively, are $313, $303, $303 and $283. The Dean is Dr. Louis F. Jermain; the Dean of students is Dr. Eben J. Carey. The registration for 1924-1925 was 245; graduates, 42. The fourteenth session begins Sept. 28, 1925, and ends June 9, 1926.

PHILIPPINE ISLANDS

The Philippine Archipelago, with a population of 10,607,872, has two medical colleges, the University of the Philippines College of Medicine and Surgery and the University of St. Thomas College of Medicine and Surgery. They are located in the city of Manila, which in 1914 had a population of 283,613.

Manila

UNIVERSITY OF THE PHILIPPINES COLLEGE OF MEDICINE, Manila.—Organized in 1907 as the Philippine Medical School, under the support of the government of the Philippine Islands. In 1910 the title was changed to University of the Philippines College of Medicine and Surgery. Present title in 1923. The faculty includes 37 professors and 45 lecturers, assistants, etc., a total of 82. A two-year collegiate course, including courses in English, physics, chemistry, biology and either French or German is required for admission. The course extends over five years. In the fifth year the students serve as interns in the Philippine General Hospital. The fees for the four years, respectively, are $81, $74, $59 and $56. The Dean is Dr. Fernando Calderon. The total registration for 1924-1925 was 165; graduates 20. The twentieth session began June 15, 1925, and ends March 16, 1926.

UNIVERSITY OF ST. THOMAS COLLEGE OF MEDICINE AND SURGERY, Manila.—Organized in 1907. The faculty includes 16 professors and 8 assistants, instructors, etc., a total of 24. (No report received for 1924-1925.) The course extends over five years. The Dean is Jose L. de Castro.

CANADA

The Dominion of Canada has nine medical colleges, all of which require a six-year course, including courses in physics, chemistry and biology. This course is practically equal to that in the colleges of the United States which require two years of college work for admission, including the science courses named.

Alberta

UNIVERSITY OF ALBERTA, FACULTY OF MEDICINE, Edmonton.—Organized in 1913. Offers all six years of the medical course. The faculty includes 31 professors and 50 instructors, assistants, etc., a total of 81. Fees for each year are $182. The Dean is Dr. Allan C. Rankin. The registration for 1924-1925 was 118. The thirteenth session begins Sept. 30, 1925, and ends May 15, 1926.

Manitoba

UNIVERSITY OF MANITOBA FACULTY OF MEDICINE, Winnipeg.—Organized in 1883 as Manitoba Medical College; first class graduated in 1886, and a class graduated each subsequent year. The college transferred all its property to the University of Manitoba in 1919 and assumed the present title. The faculty includes 55 professors and 70 instructors, assistants, etc., a total of 125. The total fees for the five years, respectively, are $180, $175, $185, $185 and $175. Matriculation requirements include two years of college work in the faculty of Arts and Science of

a recognized university subsequent to the complete high school course required for entrance to the latter. The course extends over five years of eight months each. The Dean is Dr. S. Willis Prowse. Total registration for 1924-1925 was 223; graduates, 57. The next session begins Sept. 28, 1925, and ends May 29, 1926.

Nova Scotia

DALHOUSIE UNIVERSITY, FACULTY OF MEDICINE, Halifax, N. S.—Organized in 1867. Incorporated as the Halifax Medical College in 1875. Reorganized as an examining faculty, separate from the Halifax Medical College, in 1885. In 1911, in accordance with an agreement between the Governors of Dalhousie University and the Corporation of the Halifax Medical College, the work of the latter institution was discontinued and a full teaching faculty was established by the University. By an arrangement between Dalhousie University and the Provincial Medical Board of Nova Scotia, the final professional examinations are conducted conjointly by the university and the board, and candidates may qualify at the same time for their academic degrees and the provincial license. First class graduated in 1872. It has a faculty of 29 professors and 30 lecturers and demonstrators, a total of 59. Requires for matriculation one year of Arts and a graded course of six years, including premedical courses in physics, chemistry and biology. The fees are $200 each year, except for the first, for which the fees are $132. The total registration for 1924-1925 was 164; graduates, 43. The Dean is Dr. John Stewart. The next session begins Sept. 7, 1925, and ends May 11, 1926.

Ontario

UNIVERSITY OF TORONTO, FACULTY OF MEDICINE, Toronto.—Organized in 1843 as the Medical Faculty of King's College. Abolished in 1853. Reestablished in 1887. In 1902 it absorbed Victoria University, Medical Department, and in 1903 absorbed Trinity Medical College. The course of study covers six years of eight months each, the first two being devoted largely to physics, chemistry, biology and cultural courses in history, science and English. It has a faculty of 58 professors and 202 lecturers, associates, etc., a total of 260. The fees are $163 for the first five years and $191 for the sixth year. The Dean is Dr. Alexander Primrose. The total registration for 1924-1925 was 774; graduates, 140. The next session begins Sept. 29, 1925, and ends May 30, 1926.

QUEEN'S UNIVERSITY FACULTY OF MEDICINE, Kingston.—Organized 1854, first class graduated in 1855, and a class graduated each subsequent year. The faculty was originally a department of the university, but a separation took place in 1866, when the school was conducted under the charter of the Royal College of Physicians and Surgeons at Kingston. In 1892 the school again became a part of Queen's University. The faculty numbers 48. The fees for the six years are, respectively, $148, $151, $146, $160, $160, and $180. The last includes the fee of $30 for the M.D., C.M. degrees. The course covers six years of thirty teaching weeks each, the first including courses in physics, chemistry, biology, history or economics. The total registration in 1924-1925 was 204. No graduates in 1925. The Dean is Dr. J. C. Connell. The next session begins Sept. 30, 1925, and ends May 19, 1926.

UNIVERSITY OF WESTERN ONTARIO MEDICAL SCHOOL, London, Ontario.—Organized in 1881 as the Western University, Faculty of Medicine; first class graduated in 1883, and a class graduated each subsequent year. Present title in 1923. The medical school has been under the control of the Board of Governors of the University of Western Ontario since 1913. The faculty numbers 72. Two years of premedical college work, including courses in physics, chemistry and biology, are required for admission to a four year medical course—all of which are referred to as a six year medical course. The total fees for the last four years, respectively, are $155, $163, $163 and $183. The Dean is Dr. Paul S. McKibben. Total registration for 1924-1925 was 99; graduates, 21. The next session begins Sept. 22, 1925, and ends May 28, 1926.

Montreal

MCGILL UNIVERSITY, FACULTY OF MEDICINE.—Founded 1824 as Montreal Medical Institution; became the Medical Faculty of McGill University in 1829; first class graduated under the university auspices in 1833. No session between 1836-1839 owing to political troubles. In 1905 it absorbed the Faculty of Medicine of the University of Bishop College. The course consists of two premedical years, four medical years of eight months each, and a fifth year of hospital intern work. The faculty consists of 25 professors and 133 lecturers, etc., a total of 158. The total fees for each of the five medical years are $232; for the sixth year, $262. The total registration for 1924-1925 was 480; graduates, 97. The Dean is Dr. C. F. Martin. The next session begins Sept. 21, 1925, and ends April 28, 1926.

UNIVERSITY OF MONTREAL MEDICAL FACULTY, Montreal.—Organized in 1843, incorporated in 1845 as the Montreal School of Medicine and Surgery. In 1891, by act of Parliament, the Medical Faculty of Laval University (organized in 1878) was absorbed. Present name, by act of Parliament, in 1920. A class was graduated in 1843 and in each subsequent year. The faculty numbers 85. The course extends over six years, including preliminary courses in physics, chemistry and biology. The total fees for each of the five years, respectively, are $207, $200, $242, $214 and $207. The Dean is Louis de Lotbiniere Harwood. The total registration for 1924-1925 was 251; graduates, 74. The next session begins Sept. 15, 1925, and ends June 15, 1926.

Quebec

LAVAL UNIVERSITY FACULTY OF MEDICINE, Quebec.—The Quebec School of Medicine, organized in 1848, became in 1852 the Medical Department of Laval University; first class graduated in 1855, and a class graduated each subsequent year. The faculty numbers 57. The fees are $135 each year. The course extends over six years, including preliminary courses in physics, chemistry and biology. The Secretary is Dr. Arthur Vallée, Quebec. Total registration for 1924-1925 was 223; graduates, 30.

THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES

The requirements for admission to and graduation from colleges holding membership in this association are 15 units of high school work and two years (60 semester hours) of college work.

CURRICULUM: The entire course of four years shall consist of not less than 3,600 hours, and shall be grouped in divisions and subdivided into subjects, each division to be allotted approximately the time, on a percentage basis, as shown in the following schedule:

1. Anatomy, including embryology and histology	14	–18½%
2. Physiology	4½– 6	%
3. Biochemistry	3½– 4½	%
4. Pathology, bacteriology and immunology	10 –13	%
5. Pharmacology	4 – 5	%
6. Hygiene and sanitation	3 – 4	%
7. General medicine (neurology and psychiatry, pediatrics, dermatology and syphilis)	20	–26½%
8. General surgery (orthopedic surgery, urology, ophthalmology, otelaryngology, roentgenology)	13	–17½%
9. Obstetrics and gynecology	4 – 5	%
	76	– 100%
Electives	24	– 0 %

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SATURDAY, AUGUST 22, 1925

A QUARTER CENTURY'S PROGRESS IN MEDICAL EDUCATION

The quarter century ending with 1925 has seen a successful campaign for the improvement of medical education in this country. The extent of the improvement is such as has not been equaled by any other department of education. Prior to 1900, little was known regarding our medical schools. Only those closely identified with medical education knew of the reports published by the Illinois State Board of Health during the secretaryship of Dr. John H. Rauch.[1] The high ideals upheld during his official career and his annual reports on medical education had much to do with increasing the instruction in medical schools from a two to a three year course, and later from a three to a four year course. His work also resulted in the exposure of a score or more of diploma mills located in various parts of the country, as a result of which they were forced to close. Unfortunately, the reports that he published had a limited circulation. During the last decade of the nineteenth century,[2] through a change in administration, when sweeping changes were made in the personnel of the board, the work was terminated so far as hindrances to the operation of low-grade medical schools was concerned. Immediately thereafter, the country entered a period when medical schools multiplied rapidly, and for a decade all pressure toward the improvement of medical education was apparently withdrawn.

PUBLICITY BY THE JOURNAL

In 1900, THE JOURNAL began the collection of statistics in regard to medical colleges, students and graduates, resulting in the publication of the first educational number, Sept. 21, 1901. The data published were based on reports received directly from the medical schools and, therefore, were presented in the most favorable light. Nevertheless, the conditions revealed were so serious that, in 1904, the American Medical Association deemed it necessary to create a permanent committee, the Council on Medical Education, to devote its energies toward the improvement of medical education in this country. Information was collected regarding medical education abroad, and it was found that this country had more medical schools than all other countries combined. Only a few of the medical schools in this country, however, could compare favorably with those abroad so far as entrance requirements and equipment were concerned. Of the 160 medical schools, only a few were financed and controlled as actual departments of universities, most of them being proprietary affairs conducted for profit. The most deplorable conditions existing, however, were not ascertained until brought out in the inspection of all medical schools made by the Council during the college session of 1906-1907. At the lowest extreme were a few institutions which were actually selling diplomas; in a large number only didactic, lecture or recitation courses were given, sometimes by the one teacher who constituted the entire faculty. Most of the schools had no laboratories save an old-time dissecting room and occasionally an excuse for a chemical laboratory.[3] Less than half of the colleges had affiliations with either dispensaries or hospitals in which patients could be utilized for clinical instruction, and the schools were few, indeed, in which students had the opportunity to study patients in small clinics at the bedside or as clinical clerks. No one familiar with the awful conditions found by the inspectors during the investigation of 1906-1907 would ever advocate a return to that dark era.

The methods followed by the Council through the suggesting of standards, annual conferences, inspections and classifications of schools, and the publishing of statistics and annual reports, are now history. That the campaign was successful was due to the hearty manner in which the medical schools and state licensing boards, both individually and in their associations, university presidents and others interested, supported the Council and the American Medical Association in its campaign for improvement. In 1910, the Carnegie Foundation for the Advancement of Teaching entered the campaign, giving added momentum to the work, and called the attention of philanthropists to the financial needs of medical schools.

SUMMARY OF PROGRESS MADE

During the last quarter century, in brief, the medical schools in this country have been improved so as to give a medical training in accordance with the greatly enlarged knowledge regarding the cause, diagnosis, treatment and prevention of diseases. A large oversupply of medical schools (160), most of which were of inferior grade, gave way to a more normal supply (eighty) of greatly improved, well equipped and

1. (1877-1891).
2. 1893.

3. One institution was found which turned out 105 graduates in 1905, without having completed any laboratory work, not even dissecting, nor had they had the opportunity to see a single patient in either a dispensary or a hospital.

amply financed institutions. Of these, sixty-four (80 per cent.) are now departments of reputable universities while, in 1904, 77.5 per cent. were privately owned. Through the higher educational standards and the merging of colleges, the numbers of medical students and medical graduates were considerably reduced, but the quality has been tremendously improved. The reduction, moreover, proved to be temporary. The increases in numbers have been from 12,930 in 1919 to 18,200 in 1925, an average of about 1,000 students each year. It must be recalled also that most of these students (96.2 per cent.) are trained in improved, higher grade medical schools, as compared with only 1,761 (6.2 per cent.) in 1904. Of graduates also the numbers increased from 2,529 in 1922 (the war class) to 3,974 this year—the largest number since 1914. Of these also, 96.2 per cent. were from high grade medical schools, as compared with only 6.4 per cent. of all graduates in 1904.

NEWER PROBLEMS

But perfection has not yet been attained. Newer problems have arisen as a direct result of the advances made. Formerly, except in a few schools, there was no curriculum to worry about; now, the curriculum is overcrowded and revisions are greatly needed. Formerly, the average student could easily master all the subjects taught in the medical school; now, in the four years he cannot possibly master all the subjects taught in the curriculum but must limit himself to the subjects needed to round out his training as a general practitioner. He must devote additional time, within the narrower bounds of some specialty, if he wishes to develop a higher degree of knowledge and skill in that special field. The curriculum, therefore, should be devised primarily to furnish medical students with this basic training, leaving the courses in special subjects to the graduate medical school.

A limitation of enrolments was established by certain medical schools in an effort further to improve medical education. This limitation added to the difficulties of well qualified students in gaining admission to medical schools. An investigation showed that the difficulty was due, not to an inadequate capacity of the medical schools, but to the fact that students had to make application to several medical schools before securing registration. This led to the erroneous report that many well qualified students were unable to gain admission to medical schools. After the registration was completed last fall, however, reports stated that there were still more than 1,500 vacancies in Class A schools. It is reported, also, that certain changes could be made without much difficulty or expense, to provide for 5,000 additional medical students, should that become necessary.

One problem of today has to do with the distribution and not the supply of physicians. The proportion of physicians to population in cities is apparently more than sufficient to offset the evident shortage in rural communities. Another problem is whether two or more years of time cannot be saved during the physician's preliminary and professional education so that he can enter practice at a less advanced age. The main problem, however, relates to the readjustments whereby, under the modern essentials and methods of practice, the benefits of modern medical training and practice can be brought within the reach, financially, of the largest possible proportion of the public.

THE NATIONAL BOARD'S CERTIFICATE DESERVES UNIVERSAL RECOGNITION

The certificate of the National Board of Medical Examiners is now recognized by thirty-five licensing boards, including those of thirty-three states, Porto Rico and the Canal Zone. The number of candidates for its certificate has steadily increased from ten who took the first examination in Washington, D. C., in October, 1916, to 978 who were examined during 1924. Altogether, 2,212 candidates have been examined since the board's first examination, and of these 1,745 (78 per cent.) passed. In the five years ending Dec. 31, 1921, eleven examinations were held and 268 candidates were granted certificates. Then a new plan was adopted which divided the examination into three parts: Part I, covering the fundamental medical sciences, could be taken at the end of the second medical year, and Part II on the clinical subjects, at the end of the fourth year, these two examinations being given in all Class A medical schools. Part III, a clinical and practical examination, could be taken by the candidate at the end of the hospital intern year in any one of sixteen widely distributed medical centers in which the examination was given simultaneously. The new plan was more advantageous in that candidates could take the examination at the most convenient and opportune times and without the unnecessary time and expense of traveling to a single distant place as under the old plan. This new plan brought a tremendous increase in the number of candidates. Instead of only 268 who received certificates in the five years under the old plan—an average of 54 each year—under the new plan, in the first three years, 1,744 candidates, an average of 581 each year, successfully passed the board's examination.

The National Board was organized in 1915, but did not attempt to hold examinations until 1916, after it had received the approval of the American Medical Association. Shortly thereafter, the board's certificate was accepted for admission to the Medical Corps of the United States Army, Navy, and the Public Health Service when the essential physical examination was passed.

Within two years after its organization, the medical licensing boards of eight states [1] announced their will-

1. These states were Colorado, Idaho, Iowa, Kentucky, Maryland, New Hampshire, North Dakota and Pennsylvania.

ingness to license without further examination those who held the National Board's certificate. After five years, the trial period of the board's usefulness, the certificate was accepted in eleven other states.[2] During this second period the board's diplomas were endorsed by the Conjoint Board of England, the Triple Qualification Board of Scotland, the American College of Surgeons and the Mayo Foundation. Since then the licensing boards of sixteen other states also provided for the recognition of the board's certificate.[3] At present, therefore, besides the professional associations and boards named, the licensing boards of thirty-five states are recognizing the certificates of the National Board.

With its steadily increasing number of candidates; with its well established permanence, and with the generally accepted high character of its examination, the National Board appears to be worthy of recognition by all the licensing boards in the United States. It is hoped, therefore, that the other nineteen states and territories [4] which thus far have not done so will see that legislation is enacted which will enable them to recognize the board's certificate as an acceptable qualification for a license in those states. As a medium for the exchange of medical qualifications between this and foreign countries, the board's certificate will obtain even wider recognition when it is universally accepted by all states in this country. The National Board and its examination now constitute one of the most encouraging influences in the field of medical licensure.

FATE OF THE RED BLOOD CELLS IN PERNICIOUS ANEMIA

The formation and death of the red blood corpuscles furnish part of the story of the changes that make up the "procession of life." Unlike some of the other cells of the body, the erythrocytes are not formed once for all at birth, but those present in the blood stream represent the momentary residuum of antagonistic processes.[5] Today it is certain that a disintegration of red corpuscles takes place constantly, in sickness and in health. New demands are usually coped with successfully, so far as concerns the immediate task of accomplishing additional destruction, when that is necessary, or disposing of the products of a breaking down unprovoked by the body. But for such emergency purposes, other mechanisms besides the normal must frequently be called on. It is the interplay and substitute activities of these reserve mechanisms, Rous has remarked, that make conclusions so difficult on the normal as well as the pathologic course of events.

Pernicious anemia is one of the conditions characterized by a failure of the constructive agencies to keep pace with the destructive influences that bear on the red blood corpuscles. Consequently there tends to be a large and usually ominous deficit of the latter. It is conceivable that the augmented blood destruction in certain diseases may be due to the presence of abnormal substances, such as hemolytic poisons that promptly upset the integrity of the red cells. Equally plausible is the doctrine that much of the blood destruction of pathologic states is consummated by acceleration of processes that are themselves normal. Students of the subject are thus soon brought face to face with the imperative necessity of learning where and how the erythrocytes ordinarily are disposed of. Phagocytosis by either fixed tissue cells or wandering cells has long been recognized in this connection. A recent writer [6] has remarked that when one considers the relative bulk of the spleen and liver in comparison to that of the normal active bone marrow, it is not surprising that the attention of investigators has been directed chiefly to these larger organs and that the bone marrow has received little consideration as a possible site of blood destruction. There are, however, pathologic conditions in which the fatty marrow of the long bones becomes replaced by a cellular tissue and the bone marrow becomes an organ of material size. This, he adds, happens in pernicious anemia.

The careful observations of Peabody and Broun at the Boston City Hospital justify the belief that phagocytosis not only occurs and is a constant feature of pernicious anemia but is also more prominent as a pathologic feature than it is in other diseases. Whether such "cellular hemolysis" is the only factor in the production of the anemia remains to be seen. According to the Boston clinicians, it is quite possible that the hemolytic jaundice of pernicious anemia is the result of phagocytic action but that other agencies take part in the causation of the anemia. In any event, the hemoglobin or its decomposition products immediately after their liberation probably pass quickly from the phagocyte into the blood stream. This would account for the finding of blood pigments as well as the derivative bile pigment in the plasma in acute stages of pernicious anemia.

The phagocytic cells—the so-called hematophages—that can engulf red blood corpuscles are, under normal conditions, of endothelial origin. Their activity in the ingestion of erythrocytes is, according to Rous, merely one expression of a widely exercised function; for they will take up with equal alacrity inert particles of many sorts, bacteria, and some of the so-called vital stains. The most striking evidence for their impor-

2. These states were Alabama, Arizona, Delaware, Georgia, Minnesota, Nebraska, New Jersey, North Carolina, Rhode Island, Vermont and Virginia.

3. These states were Canal Zone, Illinois, Maine, Massachusetts, Michigan, Mississippi, Nevada, New York, Oklahoma, Porto Rico, South Carolina, South Dakota, Tennessee, Texas, Washington and Wyoming.

4. These states are Alaska, Arkansas, California, Connecticut, District of Columbia, Florida, Hawaii, Indiana, Kansas, Louisiana, Missouri, Montana, New Mexico, Ohio, Oregon, Philippine Islands, Utah, West Virginia and Wisconsin.

5. An excellent review of the fate of the erythrocytes is given by Rous, Peyton: Destruction of the Red Blood Corpuscles in Health and Disease, Physiol. Rev. **3**: 75 (Jan.) 1923.

6. Peabody, F. W., and Broun, G. O.: Phagocytosis of Erythrocytes in the Bone Marrow, with Special Reference to Pernicious Anemia, Am. J. Path. **1**: 169 (March) 1925.

tance in blood destruction is of recent date. It has been further suggested by him that corpuscles which have been damaged by a variety of agents tend to lag here and there in organs that contain actual and potential hematophages. The rapidity with which they collect in the spleen is sometimes startling, as is the speed of their subsequent ingestion by cells of the organ. It may well be, Rous adds, that they are taken up merely as inert bodies that have been rendered in some way foreign to the organism. On this view, the normal aging of corpuscles would involve changes causing certain of them to come to a stop here and there in the body, with phagocytosis as a secondary consequence. In pernicious anemia, the bone marrow becomes the theater of greatest hematophagic interest. The phagocytic cells there arise either from the vascular endothelium or from the reticulum. According to Peabody and Broun, in all probability the majority of the phagocytes, and certainly those which are free, wandering cells, are to be classed as "clasmatocytes" in the nomenclature of Sabin. The differentiation of this group of cells with outspoken phagocytic powers, cells functionally unlike the lymphocytes on the one hand and ordinary leukocytes on the other, cells that may arise from connective tissue as well as specialized endothelium here and there, has been designated as an outstanding feature of the newer studies in hematology.[7]

ALCOHOL AND THE CIRCULATION

To say, in the words of a recent writer on hygiene, that "alcohol has capitulated to an ideal of social responsibility" may be more satisfying to the sociologists than it is to the physician. To call alcohol unreservedly a "protoplasmic poison" serves as a reminder that pure water and hydrochloric acid, both of which enter the human economy with occasional advantage, may also be assigned to the same category. The claim that alcohol is a stimulant is rapidly giving way in the face of its demonstrated depressant potencies. And if it is desired to add to the confusion of opinion, one may cite the much quoted dictum of an eminent clinician who held that whereas in health alcohol is mostly a detriment, in disease it may sometimes prove to be a blessing.

Little by little, however, the scientific truths about alcohol are coming into recognition through a broad minded spirit of objective research. Some of these have already been reviewed in THE JOURNAL.[8] The action of alcohol on the circulation is a theme about which there has been considerable confusion. It cannot be denied that many conscientious physicians who surely do not deserve the opprobrious epithet of medical bootleggers still are loath to abandon alcohol as a "circulatory stimulant" despite scientific uncertainty as to its pharmacology. Recent studies by McDowall[9] at King's College, London, may afford a partial explanation. He has asserted anew that, through the influence of moderate doses of alcohol, the skin capillaries become dilated, so that there may be a diminished return of blood to the heart. This happens without any reduction in arterial pressure, but is attended with a fall in venous pressure. The importance of this, McDowall avers, lies in the relief which a fall in venous pressure will give to an overtaxed heart. He notes that the physician gives alcohol in those cases in which the heart is subjected to strain, as in pneumonia, or when the heart is unable to do a reasonable amount of work, as in septicemia.

McDowall reminds us further why, on purely physiologic grounds, patients addicted to the use of alcohol are notoriously bad subjects in infectious conditions, especially pneumonia. The hearts of such persons will be frequently subjected to periods of diminished venous filling in which they are called on to do very little work per beat; and as the heart, like any other organ, adapts itself to the amount of work it has to do, it will become gradually less efficient and less capable of dealing with an additional load, such as occurs in such an emergency as pneumonia. The special liability, McDowall further reminds us, of habitual users of alcohol who take little physical exercise to be subjects of cardiac failure is well known, and no doubt it is for a similar reason that the prognosis in pneumonia becomes increasingly worse as the patient gets older and his heart becomes less efficient.

Current Comment

CORRELATION IN TEACHING OF LABORATORY AND CLINICAL SUBJECTS

In educational conferences during the last few years there has been much discussion with regard to the correlation of laboratory and clinical teaching. In our medical schools, the student's attention is called more frequently than formerly to the relationship of physiologic functions to symptoms, or he is shown how a normal anatomic structure differs after pathologic changes have occurred. Many medical schools have established clinical-pathologic conferences in which these relations are emphasized. The student should have close contact with patients, so that he may not only see the pathologic changes due to any particular disease but also observe in the living patient the symptoms caused by that disease. This trend in medical instruction shows that the laboratory and clinical departments of the medical school can no longer be in separate cities or otherwise widely separated. The desirability of having the premedical sciences also

7. Sabin, F. R.: On the Origin of the Cells of the Blood, Physiol. Rev. **2**: 38 (Jan.) 1922.

8. Alcohol and Disease, Current Comment, J. A. M. A. **80**: 1007 (April 7) 1923; Alcohol and the Germ Plasm, ibid. **82**: 1444 (May 3) 1924; The Treatment of Acute Alcoholic Intoxication, ibid. **83**: 199 (July 19) 1924; Some Truths About Alcohol, ibid. **84**: 1668 (May 30) 1925.

9. McDowall, R. J. S.: The Action of Alcohol on the Circulation, J. Pharmacol. & Exper. Therap. **25**: 289 (May) 1925.

brought into the combination leads to the conclusion that the ideal medical school of the future should be located on the campus of the university. Such, indeed, has been the policy adopted in the development of medical schools during the last few years. With the opening of the college session this fall, two medical schools will begin active teaching in buildings planned especially for such correlation. At the new medical school of the University of Rochester, N. Y., and at the Vanderbilt University School of Medicine at Nashville, Tenn., medical teaching will be conducted in buildings that house both the medical laboratories and the hospital wards. Here the physical plant makes possible the most intimate contact between the laboratory and clinical departments. A class in the department of anatomy, of chemistry, of pathology, or even of pharmacology, may go directly from the laboratory to a patient in the same building and see the application of these sciences demonstrated on the living patient. More important, laboratory teachers, some of whom may not have had a medical training, may become familiar with the routine methods followed in the diagnosis and treatment of patients in the hospital. The clinicians, also, will learn more about the teaching methods and the research work carried on in the laboratory departments. Such closer relationships cannot fail to have beneficial results also for the patient. In the plans of the buildings in the schools referred to, it is interesting to note that the library is centrally located and establishes a place in which all the workers in the building—clinicians, laboratory men, interns, students and nurses—will occasionally meet. The entire plant is constructed so as to emphasize its chief object—to establish the greatest possible accuracy and efficiency in the diagnosis and treatment of disease. The further developments of medical teaching in these two schools will be watched with much interest.

TUITION FEES AND SCHOLARSHIPS IN MEDICAL SCHOOLS

As shown in the statistics published this week,[1] the average tuition fee for each student is now $236, or just double what it was in 1910. In 1921 the average fee paid by each student was $185, in contrast with which the actual cost of his medical training was $655—more than three times what he paid in fees. With the greatly increased equipment in our medical schools, the larger number of salaried expert teachers, and other expensive developments, the average cost per student is now many times greater than it was in 1910. In that year several medical schools reported that all costs were paid from students' fees, and some were said to have had a surplus remaining. Because of the greatly improved instruction, students who can afford to do so should be expected to pay at least a fair proportion of the cost, and a reasonable increase in tuition fees was justifiable. It has been generally recognized that the full cost of maintaining the modern medical school cannot be met from students' fees, so that additional funds are now provided from state aid or private endowment. Recognizing the desirability of financing some students who cannot afford to pay tuition fees, about fifty medical schools[2] have provided, in the aggregate, about 550 scholarships, and thirty or more have set aside generous loan funds. Nevertheless, with the increasing charges for tuition, a larger provision of such aids is needed. They are especially important at this time, since the severity of the modern medical curriculum makes it more difficult for a student to earn money during his medical course. Reports indicate that many students even now earn a major part of their expenses at the same time they carry their medical studies. It is a question, however, whether the money so earned is not at the expense of much valuable experience which the student otherwise might have obtained. It is during the student's medical course, while he is under able instructors, that he has the best opportunity of his lifetime to study and observe patients in both dispensary and hospital. In order to make the best use of this opportunity, it would be better to borrow money with which to meet his expenses, or to have the advantage of a free scholarship. For those who have money to give, therefore, it would be hard to find a more worthy object than in the endowment of more of these scholarships. In the granting of the scholarships, proper safeguards should be established so that the chief object for which they are established, the helping of those who are really worthy of financial aid, may not be defeated.

1. Table 10, page 592, this issue.

FUNCTIONAL VERSUS MECHANICAL SUPPRESSION OF BILE

In most cases, the mention of jaundice brings to mind the picture of some sort of obstruction to the biliary passages. The interference with the outflow of the bile may be assumed to be located in either the larger ducts or the minutest canaliculi, but in any event it represents a mechanical interference with the discharge of the accumulating secretion. There are admittedly instances of jaundice of nonobstructive origin that have been described as congenital hemolytic icterus. The conception of such instances of pigment formation without participation of the liver has become easier in recent months, since the possibility of an extrahepatic origin of bilirubin has been shown to occur. Drury and Rous[3] have lately demonstrated a type of functional rather than mechanical suppression of biliary pigment excretion that arises in certain types of severe hepatic intoxication, notably after poisoning with chloroform. The functional inability of the liver cells to remove and excrete bilirubin from the blood in such circumstances is indicated by the production of a colorless, watery bile. This is not due to a lack of pigment formation within the body; indeed, an unusual amount may be produced because of augmented blood destruction; nor are there histologic indications of sufficient minute bile thrombi or other mechanically interfering conditions. The evidence points to a functional impairment resulting in a failure to eliminate some of the usual components rather than in obstruc-

2. See list of colleges, page 594, this issue.

3. Drury, D. R., and Rous, Peyton: Suppression of Bile as a Result of Impairment of Liver Function, J. Exper. Med. 41:611 (May) 1925.

tion to outflow. Perhaps this is analogous to the "white bile" that may become of grave concern to the surgeon if it is truly indicative of fundamental liver injury. It should not be confused, however, with the colorless fluid that is secreted by the duct system and commonly acts as a diluent to the concentrated bile discharged from the gallbladder.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Personal.—Dr. Jefferson D. Duke, Heflin, has been appointed health officer of Cleburne County.——Dr. Thomas H. D. Griffitts, Montgomery, has been appointed assistant chief surgeon in charge of sanitation at the Alabama Power Company and Dixie Construction Company, with headquarters at Alexander City. Dr. Griffitts will have general supervision of the sanitary work in the Cherokee Basin.——Dr. Lee R. Murphree has been elected health officer of Limestone County and will take up his new duties, September 1, to succeed Dr. Herbert K. Gallagher.——Dr. William C. Hatchett has assumed charge of the Madison County Health Department.

ARKANSAS

Health Train a Success.—In the first two weeks of its tour, the Missouri Pacific Health Special visited fifty towns and cities in the state, and the health exhibits on the train were inspected by 22,204 persons. The train is operated by the Missouri Pacific Railroad in cooperation with the state board of health, the Arkansas Bankers Association and other agencies, in an effort primarily to lower the incidence of malaria and to instruct the public in health matters generally.

CALIFORNIA

Chinese "Doctors" Arrested.—Chew Hing and Ho Sing, Chinese herb doctors of Stockton, were recently arrested by a representative of the state board of medical examiners on charges of practicing medicine without a license and placed in the San Joaquin county jail, it is reported.

Personals.—Dr. William E. Musgrave, San Francisco, has been reappointed editor of *California and Western Medicine*.——Dr. Frank Ruff, formerly of the U. S. Public Health Service at Fort Lyon, Colo., has taken charge of the roentgenray department at the Burnett Sanitarium, Fresno.

Industrial Accidents.—There were 206,131 accidents reported to the California Industrial Accident Commission in 1924, 645 of which were fatal, 1,319 caused permanent disability, and 87,982 temporary disability. According to *California and Western Medicine*, although 116,185 of these were "no disability" accidents, they required skilled medical attendance.

Plague Eradicative Measures.—The U. S. Public Health Service reports that among 57,072 rats trapped at Oakland, Calif., including other East Bay communities, from Jan. 1 to July 4, 1925, there were twenty-one found to be plague infected, and that among 5,130 squirrels examined from May 1 to July 4 there were none found plague infected, and that the last plague infected rat was discovered, March 4, 1925, and the date of the last human case of plague, Sept. 10, 1919. In the two weeks ending July 4 there were 1,751 rats trapped at Los Angeles, one of which was plague infected, and 1,623 squirrels examined, none of which were infected. The last plague infected rat was found, June 25.

CONNECTICUT

Attorney General's Opinion on Revocation of Licenses.—Just before the Connecticut eclectic examining board, as such, went out of existence, it filed a petition with the state department of health regarding the reinstatement of fifty-five eclectic physicians whose licenses had been revoked by the public health council on the request of a former eclectic board, following the special grand jury's investigation. It appears that the "banned physicians" recently secured control of the eclectic board and elected to membership on the board some of their own number. This is the board which filed a petition with the state department of health regarding reinstatement. The petition was signed, it is reported, by Drs. John O. Perry, Modestino Coppola, Raymond C. Prisque and Anthony R. Campo. The attorney general directed the state department of health to disregard the petition, as he was unable to find any legal authority for the state health council to rescind its former action of revoking these licenses. In his opinion, the attorney general brought out, in the case of this petition, that only four of the five members of the eclectic board signed the petition, and three of the four physicians signing had had their licenses revoked and their cases are pending in the superior court. The attorney general cited the decision of the supreme court, which held that the St. Louis College of Physicians and Surgeons was an "allopathic school of medicine" and that the eclectic examining board had no legal right to examine Coppola and Campo, who are graduates of the St. Louis College of Physicians and Surgeons. It follows, he said, that neither of them, therefore, is legally licensed to practice in this state and, therefore, lack the qualifications to serve as members of the eclectic examining board. Salvatore A. Scimeca of New Haven, who was admitted by reciprocity to practice in Connecticut by the eclectic examining board only one day before the board went out of office, was ruled out. The attorney general advised the council to refuse a license to Scimeca on the ground that the examining board had no jurisdiction. As noted in THE JOURNAL last week, the supreme court decided that the constitutional rights of those whose medical licenses were revoked had not been violated and that the procedure followed by the state department of health in revoking these licenses was in accordance with the law.

HAWAII

Superintendent of Territorial Hospital.—Dr. Alonzo B. Eckerdt was commissioned superintendent of the Oahu Insane Asylum, Honolulu, July 1, and the name of the hospital changed to that of the Territorial Hospital.

Personal.—Dr. Harold K. Marshall has been appointed physician at the leper settlement on the Isle of Molokai to succeed Dr. William J. A. Goodhue, who recently retired after serving at the settlement since 1902 (THE JOURNAL, July 11, p. 120). Dr. Marshall was formerly at the National Leprosarium at Carville, La. John D. McVeigh, superintendent of the leper colony, also recently retired after many years of service and was succeeded by Ralph L. Cooke.

IDAHO

Dr. Almond Resigns.—Dr. Frank W. Almond, Boise, state medical advisor, tendered his resignation, July 31, it is reported, effective September 1. Dr. Almond, who has held this position since 1920, will return to private practice in Boise.

Luncheon to Dr. Krause.—Under the auspices of the Idaho State Medical Association and the state antituberculosis association, a luncheon was given for Dr. Allen K. Krause, assistant professor of medicine and director of the Kenneth Dows Tuberculosis Research Laboratories, Johns Hopkins Hospital, Baltimore, at the Owyhee Hotel, Boise, July 31. Among other organizations, Dr. Krause addressed the Boise Summer Normal School on tuberculosis.

ILLINOIS

Report of Legislative Committee.—A survey of the work of the last Illinois legislature has been made by the legislative committee of the Illinois Medical Society. The committee was on the defensive throughout the entire session of the legislature, as the council did not offer any bills to be introduced. The hardest battle, the committee says, was with the chiropractors, who were exceptionally well organized and had the support of the speaker of the house and one of the floor leaders. However, the chiropractors were hopelessly defeated. The League for Medical Freedom, through alleged and incorrect charges against the Chicago Health Department, succeeded in having a bill passed by both houses which was designed to prevent health authorities from entering the home of a person having contagious disease without first getting a court order. A member of the legislative committee, the commissioner of public health and several others appeared before the governor to explain the

situation, and this bill was promptly vetoed. No other matters affecting the medical profession passed either the house or the senate. The committee reports many bills introduced which were of medical interest; some of them were: H. B. 377, creating a chiropractic board; defeated. H. B. 581, an act to regulate naprapathy; defeated. H. B. 640, an act to standardize clinical thermometers; defeated. H. B. 231, providing for the asexualization of inmates of state institutions; defeated. S. B. 44, for a board of naturopaths; defeated. S. B. 116, providing for county health superintendents; defeated. S. B. 284, creating an osteopathic board; defeated. S. B. 285, permitting osteopaths to do obstetrics; defeated. S. B. 286, permitting osteopaths to do surgery; defeated. S. B. 287, to exempt osteopaths from the optometry act; defeated. S. B. 288, another osteopathic measure; defeated. S. B. 336, a naprapathic bill; defeated. S. B. 486, creating a board of examiners for masseurs; defeated.

Chicago

Endowment of Professorship.—A chair in the University of Chicago school of medicine was endowed, August 14, with the gift of $100,000 by Mrs. Anna Raymond. The chair, the selection of which will be left to the discretion of the trustees, will be known as the James Nelson and Anna Louise Raymond professorship.

"Clark Medical Clinic" Closed.—The Illinois State Department of Registration and Education closed the "Clark Medical Clinic," 189 North Clark Street, Chicago, August 13, and obtained a warrant, it is reported, for the arrest of "Dr. L. Devereux," who is charged with practicing medicine without a license. It is said that Devereux was posing as a French specialist and was obtaining from $20 to $100 for treatments.

Workshop for the Blind.—The executive director of the Chicago Lighthouse requests physicians to refer to that institution blind people who need its help. The lighthouse conducts workshops at 3323 West Twenty-Second Street under regular factory conditions where the blind are trained in industrial occupations. They receive this training without expense. The work includes typing, piano tuning, dictaphone operating, mechanical assembling, folding, packing, sorting, stacking, and wrapping of articles, weaving on hand looms, and other work. The work is identical with that which will be required of them in factories in which they will be helped to find positions. The best time to refer persons to the lighthouse is when their blindness is impending or soon after they have become blind. Later they lose courage, and it is difficult to regain their self-confidence.

INDIANA

Personal.—Dr. George F. Keiper, Jr., Lafayette, won the Sternberg Gold Medal at the University of Michigan Medical School, Ann Arbor, for the last college year for research work on "Botulism."

Indiana World War Memorial.—The first building of the $10,000,000 Indiana World War Memorial has been dedicated and assigned to the use of the American Red Cross and the American Legion. When completed, the memorial will comprise three separate structures, the memorial proper being 220 feet high in the center of a mall five block long, which has been acquired by the state in the center of Indianapolis. Work started on the project a year ago; about three years will be required to complete the memorial.

Inspection of Tourist Camps.—The state board of health has inspected more than 175 tourist camps in Indiana since the tourist season opened this year; more than 150 of these have been approved as meeting the board's regulations, and about twenty-five have been closed because of insanitary conditions. A certificate is issued to a camp that meets approval, showing that it has reasonably complied with regulations governing water, sewage and waste, general cleanliness, protection against flies, and other fundamental sanitary requirements.

IOWA

Personal.—Dr. Robert Fred Throckmorton, Des Moines, has been detailed as commanding officer of Evacuation Hospital No. 55 (U. S. Army Reserve), organized by the staff of Mercy Hospital.——Dr. Bert W. Caldwell, superintendent, University of Iowa Hospital, Iowa City, has resigned, effective September 1.

Staff Meeting.—Dr. Charles A. Elliott, professor of medicine, Northwestern School of Medicine, Chicago, recently addressed a joint staff meeting of the St. Vincent's and Methodist hospitals, Sioux City, on "Disease of the Thyroid and Jaundice." These hospitals have a plan of admitting rural physicians to privileges of working with their staffs. Seventy-five physicians were in attendance at the meeting.

KENTUCKY

Prize at Medical Training Camp.—The $100 prize donated by the Mask and Wig Club of the University of Pennsylvania, Philadelphia, to the medical student who exhibited the most soldierly qualities at the recent R. O. T. C. training camp, Carlisle, Pa., was awarded to Robert H. Barr of Owensboro. Men were present at the camp from the medical departments of twenty Eastern universities.

Illegal Practitioner Sentenced.—N. J. Goergen, Newport, pleaded guilty, August 8, it is reported, to a charge of practicing medicine without a license, and was fined $350 and costs and sentenced to sixty days in jail. Goergen was arrested on a warrant sworn to by the assistant secretary of the state board of health, P. E. Blackerby, charging that he "unlawfully treated sick and afflicted persons by the system of x-ray and electrotherapeutics for compensation without a state license."

LOUISIANA

State Board Buys Building.—The Louisiana State Board of Health purchased, August 17, a three story building adjoining the building now owned by the board in New Orleans. The second floor of the new building will be used for an auditorium for educational purposes, and the third floor for bacteriologic laboratories and the state food and drug departments.

Inspection of Shellfish Areas.—Surg. Clifford E. Waller, U. S. Public Health Service, who is in charge of health work in connection with oyster and shellfish industries along the Atlantic and Gulf coasts, is making an inspection trip on the *Louisiana*, a boat of the conservation department, together with conservation officials, J. H. O'Neill, sanitary engineer, Louisiana State Board of Health, and E. H. Gage, associate sanitary engineer, U. S. Public Health Service. They will inspect the oyster beds of Louisiana. Inspections are also being made by the state board of health of all shellfish industries in Louisiana.

Resolution on Free Clinics.—At a recent meeting of the Louisiana State Board of Health, requests for the reestablishment of free clinics were considered. The board took the position that the venereal disease clinics were emergency measures during the war and that the functions of the board are preventive and not curative. A resolution was adopted in which the board looked with disfavor on the reestablishment of clinics or dispensaries of any kind whatever, and stating that the best the board could do is to continue to furnish free arsphenamin for the indigent sick with the definite understanding that, when furnished free, the physician would not charge for administering it.

MAINE

Personal.—Dr. Franklin A. Ferguson, was elected secretary of the New England Examining Board at the meeting in Providence, R. I., to succeed Dr. Samuel H. Calderwood.

State Board Appointment. — The governor recently appointed Dr. Albert H. Sturtevant, Augusta, to the board of registration of medicine to succeed Dr. Luther G. Bunker. The personnel of the board also includes: Drs. William G. Chamberlain, Fort Fairfield; Allan Woodcock, Bangor; Franklin A. Ferguson, Portland; George R. Hagerthy, Bar Harbor, and Adam P. Leighton, Jr., secretary, Portland.

MARYLAND

Association Acquires Home.—The Maryland Tuberculosis Association has acquired a three-story and basement brick residence as headquarters.

Tricounty Health Meeting.—Officers of the state department of health and health officers and nurses of Worcester, Wicomico and Somerset counties met, July 29, at Salisbury to discuss health in those counties. This meeting, the first of its kind in Maryland, will be followed by similar meetings throughout the state. The object of joint meetings is to confer with health officers in the locality where they are working at various times of the year. It happens that Worcester and Somerset counties have high typhoid rates, Worcester having had twenty-three cases and Somerset twenty cases this year. The conference discussed means to reduce the incidence of typhoid in those counties. Wicomico

County, through its health officers and nurses, has had only nine cases this year.

Personal.—Dr. William H. Wilmer, director of the new Wilmer Institute, visited the Johns Hopkins Hospital, Baltimore, August 5, to inspect changes in construction which are being made in that portion of the institution devoted to the institute which will open, October 1. Dr. Wilmer went to Europe, June 2, visiting Paris, Vienna, Berlin, Freiburg, Leipzig, London, Glasgow and Edinburgh, and studying methods in laboratory practice in ophthalmology and new procedures in bacteriology and biochemistry; Dr. Wilmer purchased such equipment for the Baltimore laboratory as could be obtained only abroad.——Dr. Arthur P. Herring, commissioner of mental hygiene, spent the past week on the Eastern Shore of Maryland, inspecting the county homes as to sanitary conditions.

MASSACHUSETTS

License Restored.—The registration of Dr. Horace G. MacKerrow, Worcester, which had been revoked, was restored at a meeting of the Board of Registration in Medicine, held July 30.

Rare Medical Publications.—The Boston Medical Library has just procured a copy of the "Dix livres de chirurgie," Paris, 1564. The copy is perfect except for one page of the index and is so rare that Paré's bibliographer did not know of a complete copy in France except his own. The library has copies also of Paré's "Cinq livres de chirurgie," Paris, 1572, and the "Traicté de la peste, de la petite verolle et rougeolle," Paris, 1568; also, recently acquired, is a copy of Gautier d'Agoty's "Cours complet d'anatomie," which was printed in natural colors at Nancy in 1773. Recently there came on the market in Italy a copy of the "Epitome" of Vesalius, which consists of fourteen unnumbered leaves, the last two of which are usually missing, but in this copy they are perfect. The Boston library has this copy. Among the rare texts of more recent date are Langerhans' dissertation on the pancreas, Withering on the foxglove, and certain early American pamphlets.

MICHIGAN

Lectures on Chest Diseases.—Dr. Wilhelm Neumann of Vienna will come to Detroit, September 5, for a period of ten days to lecture on diseases of the chest, giving particular attention to tuberculosis.

Unlicensed Physician Arrested.—Dr. Eddie D. Crosby, Detroit, was arrested August 6, it is reported, on the charge of practicing medicine without a license. He has, according to an investigator of the department of health, been practicing in Detroit without a license since May 25. Crosby is said to have claimed to have a license to practice in Tennessee. There is no record at these headquarters of his license to practice in any state.

Chlorin Tanks at Bathing Beach.—The recent experiment to purify the water at Belle Isle Bathing Beach by the installation of chlorin apparatus seems to have been successful (THE JOURNAL, August 8, p. 444). In June and early July, bacteriologic examination of this water disclosed about a thousand colon colonies per hundred cubic centimeters. An average of twenty-two samples of water taken just before the chlorin tanks were installed showed about 300 colon colonies per hundred cubic centimeters. After the chlorination, the average total bacterial count of eighty-seven samples was 32, and the number of colon counts per hundred cubic centimeters, 10.4. Four chlorin tanks were placed about 50 yards upstream from the bathers and hooked up in series with ordinary garden hose, which was fitted at 3 foot intervals with 4 mm. glass petcocks. The hose was anchored to the bottom, the water varying from 6 feet to 18 inches in depth. The chlorin was turned on in the morning, with the appearance of the first bather, and kept on until the last one left at night. The cost of chlorin used was about $8 a day.

State Medical Meeting.—The one hundred and fifth annual meeting of the Michigan State Medical Society will be at Muskegon, September 8-10. There will be a symposium on "The History and Examination of the Patient from Various Points of View," in which, among others, Dr. Isaac A. Abt, Chicago, will discuss the subject from the pediatric point of view, and Dr. Joseph A. Stucky, Lexington, Ky., from the ophthalmologic and otolaryngologic point of view. Among the visiting physicians who will take part in the symposium on "The Kidney and Its Relations to Disease" will be Dr. Hugh H. Young, Baltimore, "Tuberculosis of the Kidney: Its Diagnosis and Treatment"; Dr. David S. Hillis, Chicago, "Eclampsia and the Kidney in Pregnancy," and Dr. Harry S. Gradle, Chicago, "Ocular Evidences of Kidney Diseases." Dr. Harvey L. Pollack, Chicago, will discuss "Primary and Metastatic Cancer of the Head," in the symposium on "Malignant Disease," and Dr. Fred T. Lord, Boston, "Prophylaxis and Therapeutics of Pneumonia" in the symposium on "Acute Infection and Infectious Diseases." All the sessions will be in one auditorium. The clinics will be at the Butterworth Hospital.

MISSOURI

Hospital News.—The St. Francis Hospital, Cape Girardeau, recently announced the opening of a maternity department ——Trinity Lutheran Hospital, Kansas City, will soon begin the construction of an addition which will double the present capacity of sixty beds.

Typhoid Outbreak.—Seventeen patrons of a dairy operating at Columbia have contracted typhoid recently, it is reported; the dairy has been closed. About a year ago a member of the family owning the dairy contracted typhoid and is said to be a typhoid carrier.

Osteopaths Cannot Make Examinations.—The city health commissioner of Kansas City has ruled, in connection with the administration of the new ordinance which requires a periodic examination of food handlers, that certificates of physical examination signed by osteopaths will not be accepted.

Supreme Court Strikes Out Charges.—The motion of the attorney general to strike out all charges against officials of the state board of health in the answer of the Kansas City College of Medicine and Surgery, recently filed to the ouster suit, was sustained by the supreme court of Missouri, August 4. The court also overruled the motion that the case be transferred to the circuit court of Jackson County and be tried by jury (THE JOURNAL, August 15, p. 522).

St. Louis Medical Society Starts Building.—The cornerstone of the new two-story, fireproof building of the St. Louis Medical Society was laid, July 16. The new home will provide for the library, the administrative offices, and an assembly room in the basement accommodating about 400 people. The present structure, costing about $175,000, will be enlarged, when funds are available, by the erection of an auditorium with accommodations for 1,000 people which will bring the total cost to about $300,000. Dr. Amand N. Ravold presided at the laying of the cornerstone, in the absence of the president, Dr. Fred W. Bailey, who was in Europe. For seventy-one years the St. Louis Medical Society held meetings in various buildings; then in 1906 an auditorium was built on ground leased from the St. Louis Medical Library, and seven years later the St. Louis Medical Library Association and the St. Louis Medical Society united, the latter assuming all the obligations of the former and guaranteeing the continuance of the library. It was the need for adequately protecting this library of 25,000 volumes that prompted the society to erect a part of the new building at once. The old building is now not only a fire hazard but is overcrowded.

NEW HAMPSHIRE

Surgical Club Meeting.—The New Hampshire Surgical Club will hold its twenty-seventh annual meeting, Monday, August 31, at the Wentworth Hotel, Portsmouth. The afternoon speakers are Dr. James F. Mitchell, professor of surgery, George Washington University Medical School, Washington, D. C.; Dr. John H. Long, Brooklyn; Dr. John F. Gile, Hanover, and Dr. Emery M. Fitch, Claremont. As usual there is a week-end get-together for members, families and guests, comprising a fishing trip, August 30, starting at 10 a. m., a national amateur women's swimming contest in the Wentworth pool, August 28-29, a continuous sight-seeing trip Sunday and Monday, and a golf match Monday afternoon. The Portsmouth Medical Society has appointed committees to assist with arrangements.

NEW YORK

Dr. Patterson Resigns.—Dr. Christopher J. Patterson, for sixteen years in charge of the Marshall Sanatorium at Troy, has tendered his resignation to the board of directors, effective as soon as a successor is appointed. Dr. George S. Amsden, Albany, has been appointed temporarily in charge.

State Journal Employs Advertising Manager.—The Medical Society of the State of New York, through its publication and executive committees, has arranged for a full-time

advertising manager for the *New York State Journal of Medicine*, and appointed Mr. Joseph Tufts, who for a number of years has been connected with the *Journal* on part time.

Opinion of Attorney General.—Citizens and officials of Otisville are said to have supported a proposed ordinance in that village which would exclude from the municipality persons having tuberculosis who were patients in a certain sanatorium near the village. In an opinion requested by the state department of health, the attorney general said in part that the proposed legislation is discriminative, not reasonable and is an unwarranted infringement of personal liberty; it prohibits the carrying on of lawful business not necessarily a nuisance, and deprives people of their property or the full enjoyment thereof without due process of law.

Lectures on Obstetrics.—A course of six lectures and demonstrations was given to members of the Jefferson County and St. Lawrence County medical societies under the auspices of the state department of health, which met the necessary expenses. Nearly all physicians in both counties attended, some driving 35 miles. According to the *New York State Journal of Medicine*, each lecturer gave his talk and demonstration twice—in the afternoon at Ogdensburg, in the evening at Watertown. The subjects were (1) Prenatal Care, (2) Management of Normal Labor, (3) Postpartum Care, and (4) Pathology of Pregnancy. The local physicians supplied cases for demonstrations. The average attendance at each lecture was about forty-five. Similar courses in other counties may be arranged through the chairman of the Committee on Public Health and Education of the Medical Society of the State of New York, Dr. C. A. Gordon, Brooklyn.

New York City

Site for Veterans' Hospital.—Surg. Gens. Merritt W. Ireland, U. S. Army, and Edward R. Stitt, U. S. Navy, Dr. William A. White, superintendent, St. Elizabeth's Hospital, Washington, D. C., and Director Hines of the Veterans' Bureau were in the city, August 5, to select the location for the new Veterans' Bureau Hospital in the metropolitan district for neuropsychiatric patients.

Vaccination Buttons.—The city health department has decided to issue to school children who have been vaccinated against smallpox a button which proclaims that the wearer has been protected against this disease. The plan is to enlist the aid of school children in furthering vaccination, and, if it proves successful in an intensive campaign to be started in the middle west side section of the city, it will be used more widely and also as a means of prevention against other infectious diseases. The committee in charge of the campaign has decided to publish a weekly pamphlet, distribute circulars, advertise in the newspapers, and give short talks at moving picture theaters.

Institute for Crippled and Disabled Men.—This institute conducted an outing, July 24, for about 550 cripples who had been in training classes at the institute. The new river steamer *Chauncey M. Depew* was chartered for the occasion. The day was spent on the Hudson, the party going as far as West Point, and at the recreation grounds at Indian Point. Each cripple was permitted to invite a guest. The employment bureau of the institute made 475 placements during the first six months of this year, which is eighty-one more than the total for 1924. If these positions had been secured through commercial employment agencies, the cripples would have had to pay more than $8,000 in fees; 473 new applicants sought work through the institute during this period; of these the state sent 189, hospitals forty-eight, and social service agencies ninety-six.

NORTH CAROLINA

Homicides.—The state board of health has received reports of 269 deaths by homicide in the state in 1924, ninety-four of which were of white persons, 201 of negroes and four of Indians; 235 were killed by fire arms and forty-seven by piercing instruments.

Children's Clinic.—Dr. Oscar L. Miller, chief surgeon, state orthopedic hospital, Gastonia, held a clinic at city hospital, Bryson City, last week which was attended by thirty-three children from five counties. In fifteen of these cases the ailments were regarded as curable.

Optometrist Sues Society.—The suit of W. H. Dula, optometrist of Lenoir, against the state optometric society for damages of $25,000, has been transferred from Caldwell Superior Court to Iredell County for trial. Dula was expelled, it is reported, from the society for "unethical advertising." He alleges that he received the summons to appear before the society to make answer to the charge, but was delayed and failed to reach the meeting at the designated hour.

Posthumous Award of Medal.—Formal notification from the War Department of the posthumous award of the distinguished service cross to Lieut. Urbane F. Bass, Medical Corps, Three Hundred and Seventy-Second Regiment, Ninety-Third Division, A. E. F., formerly of Fredericksburg, Va., was recently received by his relatives in Raleigh. Dr. Bass was mortally wounded while rendering first aid under fire at Menthois, France, Oct. 6, 1918, both legs being amputated near the hip by a shell.

Fire Risk in Private Hospitals.—The state fire marshal recently stated, it is reported, that "the fire risk in 1924 in private hospitals in North Carolina was higher than the risk in filling stations and in cafés." Among eighty-seven private hospitals, there were nine fires, each necessitating the removal of all patients; in five of the nine, the destruction exceeded 50 per cent.; three hospitals were totally destroyed, and in one case three patients lost their lives. The fire marshal advised the conversion of the older hospitals into fire-proof structures. Hospitals now under construction in the state are almost without exception being built of fire-proof material.

PENNSYLVANIA

Personal.—Dr. James L. Cochran, Connellsville, was elected president of the Association of Baltimore & Ohio Railroad Surgeons, at its recent meeting in Philadelphia.—Dr. Theodore B. Appel, Lancaster, has been named medical director of the new Rossmere Tuberculosis Sanatorium.—Dr. Herbert A. Arnold, Ardmore, was elected department commander of the United Spanish War Veterans, Department of Pennsylvania.

Loan Fund for Students.—The Grand Commandery of Knights Templars of Pennsylvania approved an Educational Loan Fund at the annual meeting in Wilkes-Barre recently, and the committee to administer the fund has made its first report. The fund is to be used to assist students in acquiring an education. Fifty-six students, some of them medical students, are being aided; after the first year's experience it has been decided to confine aid in the future to juniors and seniors.

New Medical Center.—Plans for the erection of a $14,000,000 center at the University of Pittsburgh were announced, August 9, by the medical committee of the university. The group will include the Presbyterian, Children's, Elizabeth Steele Magee, Montefiore and the Eye and Ear hospitals, in connection with which there will be a $2,000,000 medical unit. The plan will be financed by the respective hospitals joining the unit, whose combined capacity will be 1,350 beds.

Pneumonia in Pittsburgh.—The director of the department of public health of Pittsburgh, Dr. C. J. Vaux, reported at the recent public health meeting of the Allegheny County Medical Society that isolation and quarantine for pneumonia were inaugurated in that city, April 1, 1924, and that in the first year of quarantine there were 4,503 cases, of which 1,860 were fatal, a case mortality of 41 per cent. The number of deaths was 245 less than in the preceding year and, based on the mortality percentage, the number of cases was 600 less. About 70 per cent. of the citizens of Pittsburgh who had pneumonia were treated in their homes, with a case death rate of 38 per cent., and about 30 per cent. of the citizens who had pneumonia were treated in hospitals, with a case death rate of 45 per cent. There were 341 nonresidents treated for pneumonia in hospitals, with a case mortality of 54 per cent.

Health Department News.—The state health department will officially take part in Philadelphia's sesquicentennial exposition. Notices have been forwarded to all bureau and division chiefs requesting suggestions for the exhibit.—During August, the state secretary of health announced the opening of district offices of the bureau of engineering in Philadelphia and Williamsport. The Philadelphia district includes Bucks, Montgomery, Chester and Delaware counties and the city of Philadelphia. The Williamsport district includes Lycoming, Clingon, Centre, Clearfield, Elk, Cameron, McKean, Potter, Tioga, Bradford and Sullivan. These offices will supervise water purification and sewage treatment works, and investigate typhoid outbreaks, housing conditions, major nuisances, highway water supplies and pollution of streams.—Forty-five physicians, representing the state in as many

counties, were called into a conference in August by the secretary of health to formulate plans for the development of county health associations, composed of lay-workers to cooperate with the local board of health. The purpose of this action was to standardize health activities throughout the state by the adoption of principles acceptable to boroughs, townships and the state department of health. Dr. Edgar S. Everhart of the central office is in charge of the organization of these county health units.——Russell Tewksbury has been appointed acting registrar of the department and head of the bureau of vital statistics.——Dr. Charles W. Many has been appointed full-time county medical director for Bucks County.

TENNESSEE

Personal.—Dr. Paul W. Foster has succeeded Dr. James A. Becton as head of the City View Sanatorium. Dr. Becton will go to Birmingham, Ala., to open a psychopathic hospital.

Society News.—The Memphis and Shelby County Medical Society was invited to hold its August 4 meeting in the school house at Capleville, where Dr. Ferdinand M. Malone and the citizens of Capleville entertained the society with a picnic dinner. The attendance was the largest on record during a summer month.

Hospital and Health Survey.—Dr. Haven Emerson, New York, is making a health and hospital survey of Memphis and Shelby county at the invitation of the mayor of Memphis. He has mailed a questionnaire to the physicians, which the *Memphis Medical Journal* considers gives the local medical profession a hearing in a matter of great importance to the community.

Ban on Narcotic Reregistration Removed.—Federal Judge Gore, Nashville, August 5, set aside the ruling of the internal revenue commissioner, Washington, that physicians convicted of selling narcotics could not again be issued certificates to prescribe these drugs. Judge Gore's order, it is reported, requires the internal revenue collector of the state to issue the necessary certificates to physicians and holds the order of the commissioner void (THE JOURNAL, August 15, p. 527).

TEXAS

Society News.—At the recent annual meeting of the Houston Ophthalmological and Oto-Laryngological Society, Dr. Palmer M. Archer, Houston, was elected president; Dr. Nicholas L. Dudley, Goose Creek, vice president, and Dr. W. Marcel Strozier, Houston, secretary. The society meets the first Thursday of each month on the roof of the Keystone Building, at 8 p. m.

VIRGINIA

Medical Extension Work.—The division of extension of the University of Virginia, Charlottesville, has planned to undertake medical extension work in all parts of the state which will give special attention to children, including orthopedic work for crippled children and the usual pediatric work for those who are ill. It is planned to have nurses travel throughout the state to instruct expectant mothers in the care of children and to conduct a postgraduate institute of instruction for physicians.

WASHINGTON

Hospital News.—The Tacoma General Hospital will be enlarged by the erection of a new $200,000 wing, two floors of which will be for private rooms and the third and fourth for obstetric cases.

State Medical Meeting.—The annual meeting of the Washington State Medical Association will be in Seattle at the Olympic Hotel, September 17-19. Among the visiting speakers will be Dr. Henry A. Christian, Boston; Dr. John S. Lundy, Mayo Clinic, Rochester, Minn., and Drs. Ellis W. Jones and Isaac H. Jones of Los Angeles. A complete program will be mailed to each member two weeks in advance of the meeting.

WISCONSIN

Course for Technicians.—With the cooperation of the Milwaukee section of the American Radiological Society, Marquette University has arranged a course for radiologic technicians which has the approval of the American Roentgen Ray Society and the Radiological Society of North America. The course will cover one year of full time.

Rulings of Attorney General.—Attorney General Ekern has ruled that persons who are financially unable to provide proper treatment for a deformity or ailment, although they own some property, may be admitted to the Wisconsin General Hospital at Madison as public patients.——The attorney general ruled also that the sale of herbs by an Indian medicine woman who was about to dispose of them in the city of Fond du Lac would be unlawful; also that a woman who represents herself as able to tell persons having rheumatism or other ailments and what herbs would assist them, and who sells such herbs, violates the state medical law.

CANADA

Medical Election.—The Canadian Medical Council recently elected Dr. Forrest B. Leeder, Victoria, as president-elect of the Canadian Medical Society for 1926-1927. He will assume office at the fifty-seventh annual meeting in Victoria next year. Dr. Alexander Primrose, Toronto, was elected chairman of the council, Dr. Alfred T. Bazin, Montreal, treasurer (reelected), and Dr. Thomas C. Routly, Toronto, general secretary (reelected). The council accepted a grant of $30,000 from the Sun Life Insurance Company of Canada to carry on postgraduate extension lectures throughout Canada, which will be directed chiefly to help rural physicians keep abreast of advances in medicine.

GENERAL

National Board of Medical Examiners.—A total of 502 candidates registered for the June examinations of the board, which were held in thirty Class A medical schools throughout the country; some of these repeated certain subjects in which they previously had not received passing grades, and others took one or two subjects to complete a part previously taken. The September examinations in Parts I and II will be held from the 16th to the 18th. August 15 was set as the latest date for the receipt of applications for this examination in Part I from candidates not already registered.——The second annual meeting of the diplomates of the National Board was held at Atlantic City, May 28. Dr. Lawrence W. Smith, Boston, newly elected president of the National Board Diplomates, among other, addressed the meeting; a committee was authorized to draft a constitution and by-laws for consideration at the next meeting in Dallas, Texas, at the time of the annual session of the American Medical Association.

American Society of Tropical Medicine.—At the twenty-first annual meeting of this society in Washington, Dr. Aldo Castellani, professor in the London School of Tropical Medicine, London, among others presented a paper on "Parenteric Fevers"; Dr. R. Kawamura of Niigata Medical University of Japan, on "Japanese River Fever"; Dr. Raymond E. Scott, U. S. Army, on "Black Madura Foot"; Dr. Richard P. Strong, Boston, on "Medical Results of the Amazon Expedition in 1924," and Dr. Henry J. Nichols, U. S. Army, on "A Note on Cross-Immunization in Syphilis and Yaws." Dr. Henry R. Carter was elected honorary president; Dr. Joseph F. Siler, U. S. Army, president; Drs. George C. Shattuck and Charles S. Butler, vice presidents; Brayton H. Ransom, Ph.D., secretary-treasurer; Dr. William E. Deeks, councilor for five years, and Dr. Henry J. Nichols, editor. Dr. Nichols reported that the editorship of the *American Journal of Tropical Medicine* should be "a full-time matter" and that the present plan is regarded as temporary until better arrangements can be made.

First International Malaria Congress.—Under the patronage of the Italian government, the First International Malaria Congress will be held in the Exhibition Palace, Rome, Oct. 4-6, 1925. The members of the executive committee are E. Marchiafava, V. Ascoli, A. Bignami, A. Dionisi, B. Gosio, M. Sella, G. Bastianelli and A. Nazari. All medical men are admitted to the congress, but every member must pay a fee to the secretarial office. The official languages will be English, French, German, Italian and Spanish. General reports will be translated into English and French before the meetings; supplemental reports will be printed in one language only. Manuscripts are to be sent to the secretary, A. Nazari, 14, Via XXIV Maggio, Rome, Italy, before September 1. The subjects for discussion thus far arranged are: (1) Anopheles and Malaria; (2) Biology of the Parasites; Unicity and Plurality of the Parasites; (3) The Alkaloids of Quinin and the Therapy of Malaria; (4) Epidemiologic Factors and Antimalarial Measures; (5) Propaganda Statistics, and (6) Inoculation Fever.

FOREIGN

An Advanced Course in Pathologic Anatomy.—Under the direction of Prof. G. Roussy, with the collaboration of professors from several French universities, the University of Paris Faculty of Medicine announces an advanced four weeks' course in pathologic anatomy, to begin, Monday, October 5, at 3 o'clock, and to continue every day except Saturday according to a fixed program, with special topics assigned for each day. The course will be held in the laboratory of pathologic anatomy. The lectures on theory will be "public." The demonstrations and the practical drill work will be reserved for those who are regularly enrolled. In the morning, field trips to the various services of the laboratories of Paris will be organized for the benefit of students from the provinces and from foreign countries. The fee for the course is 150 francs. French and foreign physicians and advanced medical students will be admitted to the course. The number of hearers will be limited. Inquiries and requests for registration should be addressed to Dr. Leroux, 21 Rue de l'Ecole de Médecine, Paris.

Personal.—The Bordin prize of the Académie française has been awarded this year to Dr. Maurice de Fleury, a member of the Académie de médecine.——The fund recently presented to Prof. G. Bolognesi, Siena, has been applied by him to improve conditions in the children's clinic. He accepted for himself personally only an album and a souvenir gold medal. ——The English Dermatological Society invites in turn from the allied nations some dermatologist to lecture each year. Prof. P. L. Bosellini, Rome, followed this year the American, the late Dr. J. A. Fordyce, and the French Dr. Darier.——A bronze statue of Prof. L. Mangiagalli was recently unveiled at Milan; the ceremonies concluded with a banquet. He has reached the academic age limit.——A gold medal was presented to Prof. V. Chiusoli recently, on his retirement after thirty-three years as chief of the public hospital at Ravenna. ——Prof. J. Bordet, Brussels, was given an honorary degree by the Toulouse medical faculty recently.——Sir Thomas J. Horder, Bt., physician in ordinary to the Prince of Wales, has been appointed by the king to be a knight commander of the Royal Victorian Order, and Dr. Russell F. Wilkinson, physician to Prince and Princess Arthur of Connaught, has been appointed a member of the Fourth Class of the Royal Victorian Order.——Dr. Eugenio Mesonero Romanos, director of the *Vida Medica*, Madrid, is organizing a salon in which Spanish physicians can exhibit their paintings, sculptures and other works of art.

British Medical Association Election.—At the annual meeting of this association at Bath, July 17, Robert George Hogarth, C.B.E., F.R.C.S., England, was elected president for 1926-1927; Dr. Alexander Primrose, C.B., M.R.C.S., and Frederick N. Gisborne Starr, C.B.E., both of Toronto, were elected vice presidents; Mr. C. P. Childe, B.A., F.R.C.S., M.R.C.P.E., a former president of the association, was also elected a vice president as an expression of gratitude for services rendered. Dr. Henry B. Brackenbury was reelected chairman of the representative body. It was agreed that the annual meeting in 1927 be held at Edinburgh and be part of the Lister tercentenary celebration. The report of the treasurer showed an expenditure of £113,000, which was a record for the association, but the surplus realized was more than £8,000, whereas his predecessor had budgeted for a surplus of only £5,000. The reserve fund of the association, Dec. 31, 1924, stood at £29,000. Extra copies of the *British Medical Journal* of the number of 120,000 had been supplied during the year and the expense of production had been kept down by the installation of linotype machines. The estimated total revenue for the next year was £125,000 and the total expenditure £121,000. The treasurer felt assured of the financial stability of the association despite the heavy liabilities undertaken in connection with its new home. At the annual meeting of the association in the assembly room, July 23, Sir St. Clair Thomson proposed the toast "Our Guests," which was responded to by Dr. William D. Haggard, Nashville, Tenn., President of the American Medical Association, and by Dr. A. J. Orenstein, Johannesburg, South Africa. The acting president, Mr. W. G. Mumford, proposed the toast "The King." Rt. Hon. Lord Dawson of Penn the toast "The City of Bath," the Marquis of Bath the toast "The British Medical Association," and Dr. Henry B. Brackenbury "The President."

Deaths in Other Countries

Hamilton Drummond, honorary surgeon, Royal Victoria Infirmary, Newcastle-on-Tyne, the son of Sir David Drummond, and president of the University of Durham College of Medicine, medical writer, was killed, June 27, in an automobile accident.——Dr. **R. Martin,** professor of anthropology at Munich and a pioneer in anthropometric calculations.—— Dr. **E. Potherat,** honorary member of the surgical staff of the Paris hospitals, at an advanced age.

CORRECTION

Legion of Honor.—Dr. Chevalier Jackson, Philadelphia, writes that the report of his election on his recent trip abroad to the Legion of Honor, France, was an error. Dr. Jackson was made an honorary member of certain medical societies (THE JOURNAL, August 1, p. 364).

Government Services

Examination for Regular Army

An examination will be held, September 14-18, to determine the professional qualifications of applicants for commission in the medical corps, U. S. Army. To qualify for examination a person must be a male citizen of the United States, between 22½ and 31½ years of age, a graduate of an acceptable medical school, and have had one year's hospital training subsequent to four years of instruction in medical school (except those who have been an intern one year in a military hospital or served a year as a medical officer of the army between April 6, 1917, and July 1, 1919).

1. A career in the medical corps of the army offers favorable opportunities for the practice of medicine and surgery and the specialized branches. There are general and station hospitals where from 100 to more than 1,300 patients are treated. Not only diseases common to the United States but those found principally in tropical countries are observed in these hospitals, and every essential facility in the way of instruments, appliances, apparatus and remedies is furnished for diagnosis and treatment. 2. When commissioned, the medical officer begins at once to specialize in military medicine and surgery. He receives first a course of instruction at the Army Medical School where the latest developments in general medicine, tropical diseases, and the specialties, are reviewed. Unusually complete laboratory and library facilities and clinical material at Walter Reed General Hospital are available for instruction. 3. On graduation from the Army Medical School, students go to the field service school, Carlisle Barracks, Pa., for instruction. 4. From these schools young officers are stationed at the large military hospitals for duty. 5. Other courses are offered in advanced instruction in sanitation and public health at the Army Medical School, after a period of actual service, and at the School of Aviation Medicine. To those who demonstrate ability and inclination, opportunity is offered to attend the Command and General Staff School and the Army War College, where officers are trained for general staff work as applied to the medical service. 6. Officers are required to keep in the best physical condition, and all possible opportunities are given to this end. 7. Opportunity is afforded for service in the Philippine Islands, Hawaii, Canal Zone, Porto Rico and Alaska. 8. A limited number of officers are given graduate instruction in the great civil institutions of our country after they have demonstrated ability to profit by higher specialized training. 9. A career in the medical corps does not offer opportunity to become wealthy, but it offers comfortable living and a chance to develop to the highest extent professional ability, and to practice under pleasant conditions. 10. In the event of sickness or injury, treatment is given the officer and his family, and his pay continues at the same time. If permanent physical disability in line of duty results to an officer, he is placed on the retired list with three fourths of the pay he is receiving at the time of retirement. 11. Original appointment is in the grade of first lieutenant, with promotion to captain after three years' service, major after twelve years, lieutenant colonel after twenty years and colonel after twenty-six years. There are now fifty-three vacancies in the medical corps. Further information will be furnished on request to the Surgeon General, U. S. Army, Washington, D. C.

Typhus Fever at Fort Ringgold

The Surgeon General's Office, U. S. Army, reports that a case of typhus fever occurred at Fort Ringgold, Texas, during the week ending July 25, and that six cases of this disease have occurred at this post this year.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Aug. 1, 1925.

Unification of the Pharmacy of the English-Speaking Peoples

Nearly 500 delegates and visitors attended the British Pharmaceutical Conference at Glasgow. Mr. Edmund White, in his presidential address on "Recent and Coming Developments in British Pharmacy," referred to the society's decision to set up a laboratory for the biologic examination and standardization of remedial substances. With this, when the therapeutic substances bill should become a law, the society would be able to meet the demand for an institution competent to examine and issue certificates for therapeutic substances requiring standardization by biologic and physiologic methods. He referred to the movements being made by the health department of the League of Nations toward the standardization of certain preparations and drugs, and said that while unification of old methods and customs in various countries presented many difficulties, it was desirable to avoid divergences in new ones. The unification of chemical methods of assay was also much needed, not only from an international pharmaceutic standpoint, but for purposes of international commerce. A serious effort to unify pharmacy in the English-speaking communities would yield encouraging results at once. A comparison of the British Pharmaceutical Codex with the United States Pharmacopeia showed that the practice in the two countries ran on similar lines, and the time had now arrived when our great overseas dominions, Canada, Australia, New Zealand and South Africa, should be invited to take a more active share in molding the destinies of pharmaceutic practice. Much could be done to create a high standard of ethics, both commercial and professional; to codify the administration of pharmacy law; to raise the standard of education; to encourage reciprocity in professional qualification, and so to bring about free and unrestricted intercourse between all parts of the empire. He believed that in the future they would see the various pharmaceutic societies sending their delegates to an empire conference or even to a conference of the English-speaking communities. This scheme, which was suggested for pharmacy, might well be extended also to all trades and professions. It would create an atmosphere and a community of thought and practice throughout the empire which would act far more effectually as a cementing influence than any amount of pious resolutions or legal enactments.

Rag Flock Regulations

The manufacture of flock for upholstery from dirty rags is prohibited by law. From time to time samples of flock are taken for analysis. Recent cases, in which a firm of upholsterers and a manufacturer of flock were summoned for unlawfully having in their possession flock manufactured from rags, intended to be used for upholstery, which did not conform to the standard of cleanliness prescribed by the rag flock regulations, are of interest. Analysis showed that one sample contained 169.9 parts of chlorin per hundred thousand in the form of soluble chlorids, whereas under the rag flock regulations only 30 parts are permissible, thus showing that the sample had not been properly washed. The flock was undoubtedly made from articles of clothing, etc., and it may therefore be taken that the origin of the chlorids was organic matter. It was suggested by the defendant that the clothing might have been worn by men in bacon factories or salt works. Also many of the sacks used for packing the flock were made out of bacon wrappers, and although the wrappers were washed it was impossible to remove all the salt from the canvas. A well washed sample of flock need not contain more than from 5 to 10 parts per hundred thousand. The limit fixed by the regulations is a necessary protection to the public, for although it is not impossible that the source of the chlorin might occasionally be clothing worn in a salt works, the probability is that its source is perspiration and urine. In order to show how objectionable the presence of soluble chlorin may be, the amount found in this sample, when expressed in terms of perspiration and urine, shows that each pound of flock might be contaminated by about 14 ounces of perspiration or about 7 ounces of urine. The magistrates decided in this instance to convict, and imposed a fine of $25 and costs.

Another class of flock known commercially as fiber mixture was the subject of the following case. Analysis showed that it contained 904 parts soluble chlorin per hundred thousand and to consist of coir fiber (coconut fiber) and jute fiber. The jute, it was contended by the prosecution, was not raw fiber, but had been prepared by passing old gunny bags, bacon wrappings, etc., through the ragging machine. The excessive amount of chlorin, with the smell of the material, showed that it was unwashed. A consulting chemist, called by the defendant, stated that the high chlorin content was to be expected in view of the proportion of coir fiber present, as this was prepared by a process that involved steeping in salt water, in the course of which it took up a quantity of common salt. The soluble chlorin, therefore, did not indicate the presence of harmful, dangerous or undesirable substances. For the prosecution it was pointed out that in a previous case it had been laid down that rag flock was made from woven material and that pieces of bagging which had escaped the disintegrating action of the ragging machine had actually been found in the sample, thus proving the presence of woven material. The magistrates held that the charge had been proved and decided to convict.

In a similar case the sample was found to contain 243 parts of soluble chlorin. Here again the prosecution contended that the jute was not raw and that there were pieces of woven material in the sample. They also showed that only a small proportion of the chlorin out of the 243 parts was derived from the coir fiber. The excess of chlorin must therefore have been derived from the bagging and showed that it was unwashed, and it was pointed out that "dirt weighed" and that it was to the advantage of the manufacturer not to do too much washing of the material, as this was a rather expensive process. The defense stated that the material consisted of coir fiber, raw jute and flax, and about 5 per cent. of pieces of woven material, the last being derived from a piece of Hessian cloth used to feed the fiber into the machine. The firm was convicted, but the conviction was reversed by the high court. The whole point turned on the meaning of the act of parliament and whether this sample was "flock manufactured from rags" within the meaning of the act.

Self-Willed Children

Speaking on "The Psychology of the Toddler" at the Summer School of Maternity and Child Welfare, Dr. J. A. Hadfield said that there was an intimate relation between will and temperament. Weak will was very often purely temperamental. It was the self-willed child, if properly treated, who developed into the strong-willed man. One must never squash a self-willed child, or it will develop into a weak-willed person. If one wants a child to be healthy in later life, one should encourage it in its activities, and if a child wants to be naughty, teach it how to be naughty. If the child wants to build, give it the opportunity to build. If it wants to fight, give it the opportunity to fight, and if it wants to

possess, give it the opportunity of possessing something. At the age of 3 years a child began to learn self-discipline and self-mastery. It was about as far as the imagination of some parents went to drill the child till it began self-mastery and self-discipline, but these qualities did not come wholly from without. They came from within, and one of the ways in which they came was through a desire for achievement. When 2½ to 3 years old, a child passed through the stage of suggestibility. It did things because Daddy did them. Its motto was "What is good enough for Daddy is good enough for me." At 4 it passed from suggestibility to the age of independence.

Boycott of Army Medical Service by British Medical Association

The Royal Army Medical Corps has of late been failing to attract recruits from the profession, for a very good reason. By some technicality, under a warrant of 1919 the retired pay of many majors of twenty years' service can be reduced below the $5 a day provided for by the warrant under which they joined. The complainants have no redress. They can only hope that the consequences of official wrong-doing will be inconvenient enough to induce repentance. The British Medical Association, on the report of its naval and military committee, has passed a resolution which should prick even official self-complacence. It says that "a serious breach of faith has been committed," and declares that the Association shall no longer recommend recently qualified physicians to enter the army and shall no longer publish the terms and conditions of the service in the journals until the council is assured that this and other matters under negotiation have been settled to its satisfaction.

Research Work on Distemper

The *Field* (the journal of country life) sometime ago raised a fund and appointed a scientific committee to investigate the distemper of dogs. The research has been carried out by the fund at the kennels and dog hospital on the premises of the National Institute for Medical Research, Mill Hill. An interesting report has just been issued, together with an appeal for the completion of the $125,000 which, it is estimated, will be necessary to carry the work on until the end of this year. Valuable information has been obtained as to the nature and peculiarities of distemper, and the report proves that the popular idea of the symptoms of the disease is wrong. It is pointed out that it is not necessary for a dog to have a purulent discharge from the eyes and nose, chorea or any other of the usually accepted symptoms for it to be suffering from distemper and to be dangerous to other susceptible dogs. Four days elapse between infection and the onset of symptoms. Then the temperature rises abruptly to 104 F. or more, the dog may vomit several times, and it lies about the kennel obviously feeling very ill. After twenty-four or forty-eight hours the dog returns to the normal, and a further high temperature is delayed for another twenty-four or forty-eight hours. It may be accompanied by the discharge from the eyes and nose and by chorea, but the latter has been known to be delayed until three weeks after the original infection. The fact that no bacterial organisms have been discovered in the infective agent is in agreement with the results of Garré and opposed to the conclusions of McGowan and Ferry. The organism described by these last observers has yet to be found by the council's investigators. The opinion has been formed that the virus may be found to be filtrable under certain conditions and not under others. The hope has already become appreciable that a mild form of virus may be obtained which will secure immunity in dogs to the more virulent forms of distemper by the use of a serum prepared for the purpose by the ordinary methods. Special work is being concentrated on these lines.

BUDAPEST

(From Our Regular Correspondent)

July 30, 1925.

Legislative Measures Against Food Adulteration

The board of sanitation of the city of Budapest recently discussed food adulteration. The chief sanitary inspector stated that an important field is now opening to the sanitarian in the investigation of manufactured food products. Competition in trade has become so keen and the substitution of inferior constituents in foods so general that the only remedy will be the passage and enforcement of a strict food law. Such a measure has already been before the government, but it lacked the support of an aroused public opinion. Much the same opportunity is offered in a campaign against quacks and venders of secret nostrums.

Society for the Study of Alcohol and Narcotics

A society was organized in Hungary about twenty years ago, under the title of Temperance Society, composed of physicians interested in the study and treatment of inebriety and the action of alcohol and narcotics in health and disease. The society abandoned active work in the years following the World War but now intends to resume activity. Its plan is to promote scientific studies of the effects of alcohol, to secure more accurate investigations of the diseases due to the use of alcohol and narcotics, to correct the present empiric treatment of these diseases by secret drugs and so-called specifics, to secure legislation prohibiting the sale of nostrums claiming to be absolute cures and containing dangerous poisons, and to encourage special legislation for the care, control and medical treatment of addicts. Physicians are everywhere called on for advice and authoritative facts concerning the causes, prevention and cure of drug addiction.

The Coagulation of Milk

Dr. György, a Hungarian, at present lecturer to the university at Heidelberg, has carefully worked out the phenomena that underlie the coagulation of milk. He says that milk is curdled by the following causes: (1) turning sour on standing; (2) the latter together with heating; (3) the addition of acid to fresh milk; (4) fresh milk heated to from 110 to 130 C. in a closed tube; (5) fresh milk heated with calcium chlorid; (6) the addition of rennet to fresh milk; (7) the heating of milk to which too small a quantity of rennet has been added to effect coagulation; (8) coagulation during a storm (the cause of this is not yet understood); (9) electrolysis, as described by Dr. A. S. Löwenhart about fifteen years ago. In 1, 3, 4, 8 and 9, the coagulation is to be attributed to an acid which liberates casein from its union with calcium. According to Hammersten, the effect of rennet is to cause a splitting of the casein into lactalbumin and paracasein. This is very similar to casein and differs from it in being coagulated by calcium salts at ordinary temperature, while casein requires higher temperatures. The metals may be divided into three groups with respect to the action of this salt on casein and paracasein. The first group, which contains the strongest metals, such as sodium, precipitates neither casein nor paracasein. The second group, of which lithium is an example, precipitates paracasein rapidly from its solutions at room temperature, but casein only after standing a long time at 40 C. or higher. The third group coagulates both bodies promptly at room temperature, and includes all the other heavy metals, such as iron. The precipitating power increases progressively with the transition from the strongest to the weakest metals. The precipitation of paracasein by colloidal solutions as acids, salts and alcohol is brought about more easily than

that of casein. There is no evidence that casein and paracasein are distinct substances, for all their differences are of a physical nature and indicate that these two substances are modifications of one and the same thing. Decalcified milk is coagulated by salts of such metals as calcium, strontium and barium, which probably indicates that the coagulation, if mild, is largely dependent on a change in the arrangement of mineral constituents. Acids are only the indirect cause of coagulation; the direct cause is calcium. The addition of ammonium oxalate to acid milk inhibits coagulation.

VIENNA

(From Our Regular Correspondent)

July 27, 1925.

Proposed Changes in the Medical Curriculum

A committee, composed of members of the ministry of instruction for the universities of Austria and the medical faculties, has recently elaborated a memorial on modifications in the medical curriculum. A chief demand is for the creation of a year of practical hospital training—not, as in Germany and elsewhere, for graduate physicians but for the students immediately before their graduation; that is to say, before they receive their diploma as "Universae Medicinae Doctor." Furthermore, it is proposed that the student be allowed to pass a single test in general science in place of separate tests in zoology, botany, physiology and chemistry. It is planned to place the test in general science at the end of the first or second year. Such a modification will give the student more time for anatomy. It is urged that greater weight be attached to practical activities at the bedside. It is proposed also that students be given more practice in modern methods of examination of patients, the idea being to assign to each medical assistant in the clinic or the hospital wards a definite number of students to instruct every month. The students will accompany him on his daily round and will receive direct personal instruction. Serology and bacteriology, it is thought, should receive more attention than in the past; also medical chemistry and experimental pathology. The medical course, which has heretofore required five and a half years to complete, would be extended to six and a half years. The lengthened course will, it is held, serve to check the undue registration for medical study, which has occurred during the last ten years, and will, at the same time, afford a better opportunity to become well grounded in the newer branches of medical science. Since, after graduation, every physician has the right to treat patients independently, every student after completing his studies has been able to found a private practice, without reference to his real skill and ability.

Difficulties of the Largest Krankenkasse, or Health Insurance Society, in Austria

The so-called *Bundeskrankenkasse*, which includes in its membership all government officials and members of their families, and which had entered into an agreement with the physicians that promised to bring lucrative advantages to both parties to the contract, has suddenly got into financial difficulties, which it is proposed to solve at the expense of the physicians. The fees of specialists (*Fachärzte*), which are about twice as high as those which general practitioners receive from the *Krankenkasse*, are to be materially reduced. Likewise, members of this health insurance society will henceforth find it more difficult to secure the services of specialists. The physicians are vigorously opposing these plans for reorganization, and demand that the "hypertrophic" forms of supervisional control be suppressed. It is characteristic for all sociopolitical institutions that physicians are expected to bear the brunt of any difficulties that arise. In connection with the organization of a new social insurance in the form of *Krankenkassen* for "employees and wage-earners," which is now a subject for discussion in parliament, physicians are again expected to give their services at a great sacrifice. This time, however, the physicians are not only forewarned but forearmed, and are determined, if necessary, to risk a trial of strength, in order to discover whether, against the will of the whole profession, a law can be enacted and enforced. In a short time we shall see whether, in the difficult task of protecting the interests of workmen and employees in case of illness, the desires and the cooperation of the medical profession can be completely ignored.

Arm Band to Designate Persons Hard of Hearing, as Protection Against Street Accidents

Owing to the fact that in recent months several accidents have occurred on the streets of Vienna, which were traceable to the subnormal hearing of pedestrians, the police department has suggested that all persons whose hearing is subnormal shall wear a yellow brassard 10 cm. in width with three large round black spots. The "Vox" society, the Vienna organization of persons with subnormal hearing, has complied with the suggestion and has supplied all its members with brassards. It has also published a request that all institutions which treat or deal with ear affections (schools for deaf mutes, policlinics) follow their example. Especially since the war the number of persons suffering from defective hearing has increased greatly. The large number of cannon of heavy caliber used in the war, the many explosions, and also the infectious diseases resulting in middle ear affections have caused the organization in Vienna of the "Vox" society, which numbers 70,000 members and which essays to protect the interests of persons with subnormal hearing. During recent years, 12 per cent. of the traffic accidents have been due to subnormal hearing, so that the action of the police department is quite generally approved by physicians.

The Examination Center for Tuberculous Children

In the Vienna policlinic there was established three years ago a department for the examination of children whose lungs show signs of tuberculosis. Any child can be sent there. Thus far, 1,021 children have been examined and a diagnosis established. In 269 cases, or 26 per cent., no evidence of tuberculosis was discovered, although the referring authority —a school physician, the physician to a public welfare society, the physician of the juvenile bureau, or a private practitioner—held that such a diagnosis was justified. Of those examined, 622, or 61 per cent., were found to be infected, although on first examination no proof of an active affection could be noted. In forty-seven cases, or 5 per cent., there was evidence of a pleural affection; in seventy-two cases, or 7 per cent., there was tuberculosis of the lungs or hilum. Only eleven examinees, or 1 per cent., presented genuine (tertiary) pulmonary tuberculosis, which begins with catarrh of the apex and shows a tendency to induration and to cavity formation. It is evident, therefore, that the last mentioned type is rare in children, although it is more frequent in juveniles over 14 years old. All the children examined were subjected twice to the tuberculin test. Twenty-six per cent. were in good health. The children in whom the tuberculin test was negative were given also a roentgenologic examination. In this connection, it may be remarked that not only does the roentgenologic examination result negatively in certain instances in which the tuberculin test was positive, but that, vice versa, the tuberculin test was occasionally negative in the presence of an unequivocal tuberculous pleuritis. Special heed should therefore be given to such differences between the results of the roentgenologic examination and

the tuberculin test. In eleven cases, a pleuritis could be established only by the roentgenologic examination (interlobar induration, mediastinal pleuritis). In twenty cases only clinical symptoms were observable. In sixteen cases, clinicians and roentgenologists were agreed as to the diagnosis. A primary focus was visible in the roentgenogram in twenty-two cases, or 5 per cent. of the infected cases in which a roentgenologic examination was made. In the rare cases of "tertiary" tuberculosis in children, the clinical findings are much more significant than the roentgenogram. Moist râles are heard although no corresponding dark area in the roentgenogram can be seen. The moist râles are very characteristic and very important—also when the roentgenologic test is negative—and especially at the apex of the upper or lower lobe. In seventy-two cases there were rather small but sometimes somewhat large foci in the lung tissue or in the glands of the hilum. In twenty-two of these seventy-two cases, the clinical findings were negative, the condition being revealed only by the roentgenologic examination. In nine cases rather severe tuberculosis existed although the roentgenologic evidence was not marked—but in such cases an increased prominence of the hilum alone must not be taken as proof of the presence of tuberculosis. Dr. Peyrer, who published this summary, emphasized that for the diagnosis of pulmonary tuberculosis the roentgenologic findings with moderately enlarged hilum prove nothing whatever; even calcareous shadows in the hilum must be interpreted very cautiously. No absolute reliance can be placed in the roentgenogram; the clinical findings and the tuberculin reaction are needed, since the way to errors is open. Roentgenologic evidence of an enlarged hilum is frequently found in non-infected children, and hence is not to be relied on.

RIO DE JANEIRO

(From Our Regular Correspondent)

July 15, 1925.

Nasal Fibroids in Leishmaniasis

Dr. P. Albernaz, otorhinolaryngologist in Jahu Hospital, São Paulo, has published an interesting study on fibroid growths of the nasal septum in three patients with leishmania infection. Such tumors have already been found in syphilis, tuberculosis, leprosy, chronic glanders and rhinosporidiosis. The leishmania nasal growth is rounded, smooth, hard and almost lusterless, and lies in the septum, between the tubercle and the mucosa of the naris. The color is dark, dirty rose and the surface is rather even. The tumor does not bleed to the touch in the mass itself, but is more liable to hemorrhage in its base. It is painless and sessile, the pedicle being rather long. It does not disturb except when causing anosmia through its large size.

There is no preference for any especial age, race or sex. In two of the cases it originated in the right side. Their appearance without perforation of the septum may be related to the greater resistance on the part of the tissues, attenuation of germ virulence or perhaps, as in the cases studied, insufficient treatment. In one of the three cases, a typical leishmania lesion was found inside the growth. In each case, the growth appeared after the skin manifestations healed, following a few injections of antimony and potassium tartrate.

Anniversary of the Academy of Medicine

The National Academy of Medicine, the oldest of all Brazilian scientific bodies, and next to the oldest in South America, celebrated its ninety-sixth anniversary, June 30. The session assumed befitting solemnity and was presided over by the secretary of the interior. The president of the academy, Prof. M. Couto, delivered an address on eugenic problems, emphasizing the rôle of health in human accomplishments. The first secretary, Dr. Belmiro Valverde, described the papers submitted during the year, and the official orator, Dr. Garfield de Almeida, recalled the merits of the members who had died during the year.

The academy gold medal was granted to Dr. A. Valerio for his monograph on sciatica. The president then read the list of prizes to be awarded in the coming year.

PRAGUE

(From Our Regular Correspondent)

July 28, 1925.

The Institute of Hygiene

The chamber of deputies has passed the bill creating the institute of hygiene in Prague, by joint action of the Czechoslovak government and the International Health Board of the Rockefeller Foundation. The institute, which will be under the ministry of health, will make investigations for the public health service, foster education in preventive medicine, and take care of the education of the health personnel. The government may create branches of the institute in provincial cities, especially where there are medical faculties. The ministry of health will create a special advisory council to the institute of hygiene. It was pointed out to the parliament that a modern health organization needs the closest contact with scientific investigators in preventive medicine. The opposition, including the communists, voted for the bill, which passed the house of deputies unanimously. The bill will come before the senate in September, and there is no doubt that it will be accepted without any material change. The date for the official opening of the institute has been set for the end of September.

Cooperation with the Health Section of the League of Nations

Dr. Ludvik Rajchmann, director of the health section of the League of Nations, visited Prague officially and delivered a lecture on the aims of this organization, July 11. The purpose of Dr. Rajchmann's visit was to discuss with the government authorities the creation of a special bureau to cooperate with the health section of the League of Nations. This proposal was first made by the Czechoslovak government, and the scheme will probably be accepted by other European countries.

The Education of Nurses

A committee appointed by the Red Cross has reported its study of the nursing situation in Czechoslovakia. The Prague School for Nurses, with its Czech and German branch, gives a two year course primarily training for bedside nursing. About fifty nurses are graduated from the school each year and could be readily absorbed by the general hospitals. Many nurses go into the services of the health centers and dispensaries, which sprang up in great numbers after the war, since these positions allow greater freedom with better financial returns. The nurses are being given preference in these positions by the physicians in charge of the dispensaries, in spite of the fact that they have very little public health training, because they stand much nearer to the education of an average physician than a trained public health worker. Besides the graduate nurses, the field of public health nursing has been occupied by the graduates of the Prague school of social work. This school was originally organized to prepare students for social work, but more and more public health topics were added, since it appeared that there is more need for public health workers than for social workers. The education given by this school was not sufficient in its practical training to make their graduates satisfactory public health nurses. The committee of the Red Cross recommended the merger of the school of social work with the school for

nursing. The proposed school would have the first year of training common to all students, but during the second year, one half would receive training primarily in the hospital to prepare for bedside nursing, while the other half would go into dispensaries and would become public health nurses. As the committee was composed of the most influential people in nursing education, it is most probable that the recommendations will be put into practice.

Another committee is working in Brno to create a new school for bedside and public health nurses in connection with the medical faculty of that city.

Venereal Infections in the Army

The Czechoslovak *Army Medical Journal* recently published an interesting article by Col. Clement Zrunek on the venereal infections in the Czechoslovak army. Infections among recruits are recorded separately from fresh infections contracted in the army. The fresh infections are reported weekly in the same manner as other infectious diseases. There has been a remarkable reduction of the incidence of venereal diseases in recruits. The rate for all the venereal diseases per hundred thousand recruited soldiers fell from 831 in 1921 to 438 in 1922, 400 in 1923 and 314 in 1924. This can be taken as an index of the incidence of venereal disease among the civilian population, and shows a decrease of almost 60 per cent. for all the venereal diseases. The decrease in the incidence of chancroid was 80 per cent., of syphilis 75 per cent., and of gonorrhea 50 per cent. Colonel Zrunek explains this phenomenon as due to the return to normal conditions of civilian life with the soldiers returned to their families. The rate per hundred thousand of fresh infections in the army amounted for all venereal diseases to 2,661 in 1922, and 1,528 in 1924. For gonorrhea, the respective figures were 1,647 and 1,044; for chancroid, 236 and 122; for syphilis, 778 and 361. It is evident that hand in hand with the reduction of venereal diseases in the civilian population goes the reduction in the army. The fluctuations by weeks indicate the most dangerous periods for the contraction of venereal infections by soldiers. The peak of incidence occurs at Christmas time, which can be easily explained through the leaves of absence. However, at Easter, leaves of absence are afforded as many soldiers as at Christmas and are of almost the same duration, but there is no appreciable rise of the curve of incidence. The after war time is not suited to test the efficiency of antivenereal measures, and we shall have to wait until the natural decrease comes to a standstill. Then we shall see whether public health measures will lower the rate of incidence even further.

International Congress of Midwives

The first international congress of midwives, held in Prague from May 30 to June 1, was attended by delegates from Austria, England, Germany, the Netherlands, Poland, Roumania and Switzerland, and was presided over by Dr. A. Ostrčil, recently appointed to the chair of obstetrics at the Charles University in Prague. The congress recommended the creation of the International Union of Midwives, which was constituted immediately after the congress. The congress recommended that the education of midwives should include three years of special studies, as is the custom in Belgium and the Netherlands. The same preliminary education should be required as for the nurse. The education of the midwife should include theoretical and clinical training and also the social side of the problem. Social work for mothers and infants in the rural districts should be reserved to the midwives, while in the cities it should be organized in cooperation with the practicing midwives. The congress recommended that midwives should be included in national sickness, invalidity and old age insurance. The new law regulating the training of midwives in Czechoslovakia was brought before the congress by the representatives of the ministry of health. It requires a training of twelve months, with special courses of two months' duration for every midwife who has been in practice ten years.

BERLIN

(From Our Regular Correspondent)

Aug. 1, 1925.

Critical Observations on Gye's Cancer Researches

In an article in No. 32 of the *Deutsche medizinische Wochenschrift*, Professor Blumenthal, director of the Berlin Institute for Cancer Research, gives a series of critical observations on the results of Gye's cancer research, which appeared in the *Lancet*, July 18. In view of the importance of the cancer problem, I shall perhaps be justified in quoting very nearly verbatim portions of the Blumenthal article:

It would have been extremely interesting to learn the behavior of the virus cultivated from the mouse and rat tumors when it was added to the specific substance derived from mouse and rat tumors, but Gye's report does not enlighten us on this point. He merely mentions in the summary that the rat tumor 9, the mouse cancer 63 and Jensen's rat serum containing the specific substance of the Rous tumor may be used in place of the virus of the Rous tumor in the production of chicken sarcoma. He fails to state whether or not cultures derived from rat and mouse tumors will, on addition of the specific factor, produce likewise tumors in mice and rats. We must, however, secure such a positive result before we can, in agreement with Gye, accord to the virus any general significance for the cancer problem.

Now, as to cancer in man. There are three cases cited but they all deal with attempts to transfer the Rous chicken tumor. The three cases concerned were: a scirrhous cancer of the mammary gland, a sarcoma of the hip and an adenocarcinoma of the mammary gland. The experiments with the first two tumors resulted negatively, the third positively. These results show that in a case of human cancer, as well as in animal tumors, a virus was cultivated which resembled biologically the virus of the Rous chicken tumors.

Gye concludes from his experiments that he has found and demonstrated the cancer parasite in the form of an invisible virus. He admits, however, that he has not as yet adduced any positive proof for this conclusion. Before the evidence can be regarded as convincing, it will be necessary not only to propagate the parasite but also to prepare a culture of it, and, through inoculation from a definite portion of the culture, to secure further cultures with which tumors are produced. He thinks it is possible that there is not only one invisible virus but that there are several viruses corresponding to the various kinds of cancer. The substance that is derived from the animal itself and which is present in each tumor is specific in that it is the decisive factor not only for the particular species of animal but also for the variety of tumor; that is to say, that a filtrate from a sarcoma can make it possible for the parasite to produce only a sarcoma, while a filtrate from a carcinoma will give rise to only a carcinoma. The same would be true of the species of animal.

The significance of the results of Gye's cancer researches for the etiology of cancer is possibly impaired somewhat by the fact that the so-called chicken sarcomas are regarded by most pathologists as different from the sarcoma occurring in man and as being merely infectious granulomas. In any event, of all animal tumors they are, biologically, the farthest removed from human cancer. As evidence for the asserted regular occurrence of the Rous virus in the cancer tumors, a number of interesting illustrations are furnished which we owe to Barnard's discovery of a new optical instrument. The

appearance of the propagated virus is, however, not of decisive significance for the etiology of cancer.

I am convinced that the reported results of Gye's researches are of paramount importance for the rôle of a virus or of a group of viruses in the pathology of tumors, though I do not believe that all the conclusions drawn are justified. It does not seem to me as yet proved that the virus cultivated from mouse and rat tumors must be regarded as a causative agent for these tumors alone. Is it not at least equally plausible that the virus together with a specific factor derived from mouse and rat tumors produces the same variety of tumors in these animals? The same reasoning applies to the formation of human cancer, for in the three experiments with the Rous sarcoma two resulted negatively. For that reason, I do not think it is permissible to ascribe the inorganic production of cancer by means of tar and other irritants to parasitic influences, as Gye, as the result of his researches, seems inclined to do. Gye holds that all irritants that have thus far been shown to influence cancer formation exert a specific action; that is, that they bring about such changes in the tissues as prepare the way for infection. The virus then penetrates the cells, takes up its abode, propagates and produces the growth. When we recall that Bloch, Yamagiwa and others secured 100 or nearly 100 per cent. of positive results in the way of cancer formation following applications of tar, we would be compelled to conclude that the virus must be ubiquitous. While that is not absolutely impossible, it has not as yet been shown to be probable.

That the study of the problem of invisible viruses has received new impetus through the researches of Dr. Gye and Mr. J. E. Barnard cannot be questioned. It is quite within the range of the results of previous researches on malignant animal tumors to endeavor to explain the tumor-producing qualities of not only animal but also vegetable parasites recognized as causative agents in cancer, by the assumption of such a virus. Borrel discussed that possibility in connection with the various organisms which he found in the tumors of animals and which he considered causative agents in cancer formation. Fibiger suspected a virus in connection with *Spiroptera neoplastica*. My collaborators and I raised the same question when we had cultivated our tumefacient strains from human tumors. We regard it as quite within the limits of possibility that the bacteria outside of and inside of the tumors are laden with a virus and that this virus is further propagated with the cultivation of the bacteria. In our opinion, it is probable that also other micro-organisms may take up the virus in question. Various parasites might, then, by reason of such a virus, acquire cancerogenic properties. Reichert, who reinvestigated at the Sächsische Serumwerk in Dresden the tumor-producing properties of our strains of bacilli, is likewise of the opinion that a virus may be associated with them. It must not be forgotten, however, that what Gye failed to accomplish—namely, to produce with a virus derived from human cancer cancer-like tumors in rats and mice—we succeeded in doing with our bacteria, the results having been confirmed by Reichert. We have been able to demonstrate the presence of these bacilli in a third of the cancer cases examined. The bacilli themselves were not directly demonstrable in the tumor but were found in the droplets that resulted on liquefaction of the tumor, which we, after the W. Becker method, had exposed to the sun's rays by means of a burning mirror.

The demonstration, for the first time, of cancer-producing parasites in human cancer and their cultivation in pure culture by Auler, Paula Meyer and myself is a piece of experimental evidence which investigators of the parasitic origin of cancer in man should not pass over in silence. It would, of course, mark a still further advance if their cancerogenic properties could be shown to be uniformly due to a definite virus or a group of viruses. While Gye and Barnard have not yet succeeded in making this demonstration, their researches constitute an important step in that direction.

Gye's demonstration of the significance of a second factor in the production of tumors is also in accord with our experiences in experiments with our neoplastic bacilli, according to which, besides diatomaceous earth, the addition of lymph from a cancerous organism was needed to produce transplantable malignant tumors. Also Reichert found that the injection of inactive filtrates of rat cancer stimulated to more rapid growth a tumor that had been produced by our bacilli. We, also, as did the English authors, compared the second factor with what in the spontaneous evolution of cancer is termed "disposition." That this second factor is as specific as Gye assumes, I am not prepared to admit, for, with the addition of lymph from human cancer, we produced in rats our transplantable malignant tumors and have since propagated them to the fifteenth generation. Special interest, it seems to me, attaches also to the discovery by Gye of the fact that the virus had to be cultivated anaerobically or that anaerobiosis favored markedly the propagation of the virus.

In this connection, I wish to call attention to the significance that Otto Warburg ascribes to the fact that cancer cells are anaerobic in contradistinction to normal cells. Warburg regards the lack of free oxygen at the site of cancer formation as of great import. This view is in agreement with the experiments of my assistant Hans Auler, which I discussed at Leningrad, May 19, according to which, among other phenomena, sections of carrots inoculated in an atmosphere poor in free oxygen showed signs of tumor formation, whereas in an atmosphere rich in oxygen no such signs developed. In the meantime, Hans Auler has undertaken numerous other experiments with plants, and has thus collected further evidence to prove the stimulating effect of an oxygen deficiency on tumor formation.

The purely experimental results of Gye are entirely in harmony with the findings reached in other ways. Not only the methodology but also the actual accomplishments constitute an important advance in the knowledge of the genesis of tumors. Although—in my opinion, at least—the researches of Gye have not as yet furnished us with an unequivocal solution of the problem of the origin of cancer, we can feel assured that the new methods and the facts thereby established will give a fruitful stimulus to future research.

Marriages

IOLAS M. HUFFMAN, Ravenna, Ohio, to Miss Margaret E. Foster of Washington, D. C., recently.

WILLIAM JOSEPH SWEENEY to Miss Ernestine Kirk Flanley, both of Wakefield, Mass., April 24.

ERNEST W. VEAL, South Jacksonville, Fla., to Miss Clara G. Gale of Jacksonville, July 27.

ROBERT LEO ELLISTON, La Salle, Ill., to Miss Florence Stunn of Yorkville, at Aurora, July 28.

CLAUDE L. SPENCER, Dallas, Texas, to Miss Phyllis Mae Haas of Fort Worth, July 4.

ROBERT S. BREAKEY, Ann Arbor, Mich., to Miss Judith Jenison of Lansing, July 11.

GEORGE A. STIMSON, Sandusky, Ohio, to Miss Miriam Mansfield of Detroit, July 30.

LEE DE CADY, St. Louis, to Miss Gracia Rowley of Carthage, Mo., June 28.

JAMES M. ERWIN, Calhoun, Ga., to Miss Phoebe Broadrick of Dalton, June 4.

ABRAHAM MEDJUCK to Miss Dorothy Schaffer, both of New York, August 9.

Deaths

George Fred Sutherland ✠ Chicago; Rush Medical College, Chicago, 1920; clinical associate in pediatrics at his alma mater; member of the Chicago Pediatric Society; on the staffs of the Chicago Memorial Hospital and the Presbyterian Hospital, where he died, August 16, of ulcerative pharyngitis, phlegmon of the neck, and bronchopneumonia; aged 33.

Llewellyn Powell Williamson ✠ Lieutenant Colonel, M. C., U. S. Army, retired, San Francisco; Missouri Medical College, St. Louis, 1897; member of the American Academy of Ophthalmology and Otolaryngology; served in the Spanish-American and World wars; aged 51; died, July 27, at the Letterman General Hospital, of carcinoma.

George Elmer Gorham, Albany, N. Y.; Hahnemann Medical College and Hospital, Chicago, 1874; member of the Medical Society of the State of New York; formerly on the staff of the Memorial Hospital; aged 75; died, August 1, at Kinco, Maine, of heart disease.

Charles Henri Leonard, Detroit; University of Wooster Medical Department, Cleveland, 1874; formerly emeritus professor of medicine and surgery, diseases of women and clinical gynecology, Detroit College of Medicine and Surgery; aged 75; died, July 31.

Floyd B. McBride ✠ Coffeyville, Kan.; Indiana Medical College, School of Medicine of Purdue University, Indianapolis, 1906; past president of the Montgomery County Medical Society; aged 43; died suddenly, July 28, of heart disease.

James Henry Allen, Delphi, Ind.; University of Michigan Homeopathic Medical School, Ann Arbor, 1884; formerly professor of dermatology and venereal diseases, Hering Medical College, Chicago; aged 69; died, August 1, of pernicious anemia.

Levi Elijah Gardner, Homer, N. Y.; Long Island College Hospital, Brooklyn, 1892; member of the Medical Society of the State of New York; formerly health officer of Black River and Rutland; aged 67; died, July 31, following a long illness.

Alexander T. Stewart, Warnock, Ohio; Central College of Physicians and Surgeons, Indianapolis, 1898; member of the Ohio State Medical Association; aged 56; died, August 1, at the Ohio Valley General Hospital, Wheeling, W. Va.

Mark Leon Bailey, Carbondale, Pa.; Medical Department of the University of the City of New York, 1889; formerly on the staff of the Carbondale City Hospital; aged 60; died, August 1, at Hampton, N. J., following a long illness.

Thomas Newton Self, Cleburne, Texas; Medical Department of the Tulane University of Louisiana, New Orleans, 1893; member of the State Medical Association of Texas; aged 57; died, July 27, following a long illness.

James Richmond Fleming, Sinnett, Okla.; University of Nashville (Tenn.) Medical Department, 1900; member of the Oklahoma State Medical Association; aged 51; died, April 11, of diabetes mellitus and myocarditis.

Samuel Lowry Beard ✠ Shelbyville, Ky.; University of Louisville School of Medicine, 1900; served in the M. C., U. S. Army, during the World War; aged 49; died, August 3, at Battle Creek, Mich., of angina pectoris.

Albert C. McGannon ✠ Cleveland; Cleveland College of Physicians and Surgeons, Medical Department Ohio Wesleyan University, 1903; aged 44; was drowned, August 3, near Pakesley, Ont., Canada.

Pauline Barton Peeke, Cleveland; Cleveland Homeopathic Medical College, 1901; formerly adjunct professor of physical diagnosis at her alma mater; aged 64; died, August 2, at the Huron Road Hospital.

Donald J. McPherson, Palmyra, N. Y.; Hahnemann Medical College of Philadelphia, 1878; aged 73; died, July 25, at Clifton Springs (N. Y.) Sanatorium, of pneumonia, following an operation.

John Wesley Hoover, Sapulpa, Okla.; College of Physicians and Surgeons, Baltimore, 1892; member of the Oklahoma State Medical Association; aged 62; died, July 26, of heart disease.

William Peter Ponder, Forsyth, Ga.; Bellevue Hospital Medical College, New York, 1885; member of the Medical Association of Georgia; aged 77; died, July 26, following a long illness.

Edward Estle Truitt, Maquon, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1883; aged 66; died, August 4, in a hospital at Galesburg, of a poison, presumably self-administered.

Matthew Woodbury Plumstead ✠ East Haddam, Conn.; Jefferson Medical College of Philadelphia, 1887; on the staff of the Middlesex County Hospital, Middletown; aged 70; died, July 28.

James T. McCormac, Berkeley, Calif; Willamette University Medical Department, Salem, Ore., 1882; formerly a practitioner in Oregon; aged 68; died, July 25, of carcinoma of the stomach.

Joseph Frederick Sigwart ✠ Sacramento, Calif.; St. Louis University School of Medicine, 1912; aged 38; died, August 2, at St. Joseph's Hospital, San Francisco, of lobar pneumonia.

Theodore M. Gehrett, Deshler, Ohio; Toledo Medical College, 1884; member of the Ohio State Medical Association; aged 69; died, July 30, as result of a recent automobile accident.

Samuel J. Sornberger ✠ Cortland, N. Y; College of Physicians and Surgeons, Chicago, 1894; on the staff of the Cortland County Hospital; aged 75; died, August 10, of heart disease.

William Rothven Rowland, Blanchester, Ohio; University of Vermont College of Medicine, Burlington, 1903; also a minister; aged 52; died, recently, of cerebral hemorrhage.

Evan J. Jones, Oak Hill, Ohio; Medical College of Ohio, Cincinnati, 1879; member of the Ohio State Medical Association; aged 68; died, August 2, following a long illness.

Lauren Melville Allen ✠ Norwalk, Conn.; Medical Department of Columbia College, New York, 1880; formerly on the staff of the Norwalk Hospital; aged 68; died, July 28.

William P. Howle, Charleston, Mo.; University of Louisville (Ky.) School of Medicine, 1876; formerly county coroner; aged 78; died, July 26, following a long illness.

Luther Murray Houser, Pennsylvania Furnace, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1886; aged 74; died, July 11, of cerebral hemorrhage.

Jesse Cram Anthony, San Francisco; Bellevue Hospital Medical College, New York, 1886; aged 64; died, August 3, of non-contagious parotiditis and chronic cystitis.

Richard J. Phelan, Minneapolis; University of Minnesota Medical School, Minneapolis, 1903; aged 49; died, July 27, of injuries received in jumping from a window.

Adolph Wieber, Brooklyn; University of Giessen, Germany, 1889; Long Island College Hospital, Brooklyn, 1890; aged 61; died, July 29, of cardiovascular disease.

John Davidson Fields, Austin, Texas; Medical Department University of Louisiana, New Orleans, 1869; Civil War veteran; aged 80; died, June 27.

Frederick M. E. Howell, Reading, Pa.; Hahnemann Medical College and Hospital of Philadelphia, 1900; aged 54; died, July 30, of angina pectoris.

Leo J. Kelly, Joliet, Ill.; Illinois Medical College, Chicago, 1906; aged 42; died, July 31, at St. Joseph's Hospital, following an operation.

Patrick O'Neill Convery, Waterloo, Iowa; Rush Medical College, Chicago, 1896; aged 53; died, July 31, at the Mercy Hospital, Dubuque.

Alva Clay Jones ✠ Leonard, Texas; Atlanta College of Physicians and Surgeons, 1902; aged 55; died, June 28, of chronic nephritis.

Gertrude Gail Wellington, Balsam Lake, Wis.; New York Medical College and Hospital for Women, 1887; aged 71; died, July 3.

Isaac F. Barnes, Gulfport, Miss.; Kentucky School of Medicine, Louisville, 1879; aged 67; died, July 25, of chronic nephritis.

John Jackson Horton, Elora, Tenn.; Vanderbilt University Medical Department, Nashville, 1881; also a minister; died, July 26.

Carrie B. Flower Hastings, Sedalia, Mo.; Kansas City (Mo.) Hospital College of Medicine, 1888; aged 90; died, July 9.

Edward H. Linnell, Norwich, Conn.; New York Homeopathic Medical College, 1876; aged 71; died suddenly, July 26

Samuel Percy Shelton, Cedars, Miss.; Memphis (Tenn.) Hospital Medical College, 1903; aged 50; died, May 31.

Joseph Henry Bittinger ✠ Hanover, Pa.; Jefferson Medical College, Philadelphia, 1878; aged 73; died, July 4.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

BENZYL-VIBURNUM COMPOUND NOT ACCEPTABLE FOR N. N. R.

Report of the Council on Pharmacy and Chemistry

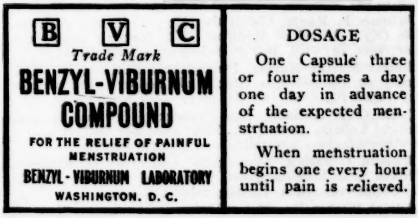
The Council has authorized publication of the following report.

W. A. PUCKNER, Secretary.

Benzyl-Viburnum Compound (Benzyl-Viburnum Laboratory, Washington, D. C.) is marketed in the form of capsules. According to the information furnished the Council:

"Each capule contains two grains of Benzyl-Succinate, Viburnum opulus and Helonin (last two in form of powdered extracts) and powdered ginger root."

In the advertising the capsules are stated to contain ". . . benzyl-succinate, viburnum opulus, helonin, and other ingredients . . ." that is, the ginger root is replaced by "other ingredients." Nothing is said in the advertising or in the information furnished the Council in regard to the "helonin," which is said to be present in the form of an extract. The name "helonin" has been applied to extractive preparations derived from false unicorn (*Helonias dioica*) of indefinite composition.


B V C
Trade Mark
BENZYL-VIBURNUM COMPOUND
FOR THE RELIEF OF PAINFUL MENSTRUATION
BENZYL-VIBURNUM LABORATORY
WASHINGTON, D. C.
DOSAGE
One Capsule three or four times a day one day in advance of the expected menstruation.
When menstruation begins one every hour until pain is relieved.

Photographic reproduction (enlarged) of the label on a trade package. The advertising matter calls attention to the handy, pocket-size container, thus: "This form of medication is especially adapted for office workers as Benzyl-Viburnum Compound is packed in a small glass vial which can be carried in the purse." It is the evident intent of the manufacturers that Benzyl-Viburnum Compound shall follow in the footsteps of Antikamnia, Aspirin, Pepto-Mangan and other "ethical proprietaries" that passed by easy stages into "patent medicines."

Benzyl-Viburnum Compound is proposed for the treatment of dysmenorrhea and "true asthma." Benzyl esters were reported to be without effect on asthma (THE JOURNAL, Dec. 6, 1924, p. 1864). Cramp bark (*Viburnum opulus*) and false unicorn (*Helonias dioica*) have long been constituents of proprietary female remedies, but there is no evidence of their efficiency. In 1916, Pilcher, Delzell and Burman (THE JOURNAL, Aug. 12, 1916, p. 490) found that both the fluid-extract and the infusion of cramp bark (and of mountain maple, commonly sold in its stead) and of false unicorn (*Helonias dioica*) were without effect on the excised guinea-pig uterus. They held that the use of these drugs was harmful as well as futile, since they tend to perpetuate therapeutic fallacies. Since then no reports have become available to offset the conclusions of these investigators.

The trade package contains the recommendation: "For the relief of painful menstruation," and directions for the use of the preparation.

Benzyl-Viburnum Compound is an indefinite, complex and irrational mixture which is marketed with unwarranted therapeutic claims and in a way to encourage its indiscriminate and harmful use by the public.

JOHN D. RICKER, "MAGNETIC MASSEUR"

Ann Arbor Gives Short Shrift to Traveling Quacks

A two-column advertisement appeared in the Ann Arbor *Times-News* for August 1, which notified "chronic sufferers" that "John D. Ricker, Noted Magnetic Masseur," would be at a local hotel on August 4 and advised the blind, the deaf and the halt to come and be cured.

The health officer of Ann Arbor, Dr. J. A. Wessinger, believes, however, in protecting the fool from his folly and the sick from the quack and as a result, he, with other local officials, was on hand to await the arrival of the "magnetic masseur." By 9 a. m., August 4, Ricker had not arrived, but two of his representatives were on hand; Ricker was said to be expected later in the day. He had not appeared in the afternoon, but in the meantime, Ricker's representatives, Charles E. Potter and J. D. Ramey, were both at work interviewing patients and otherwise preparing the sheep for the slaughter.

These representatives were described by Dr. Wessinger as having the appearance of tramps temporarily in white collars. They were asked for their credentials entitling them to treat the sick in Michigan. They had none. They were arrested, taken in rapid succession before the public prosecutor, justice court, where they waived examination, and then to the circuit court, where they pleaded guilty to the charge of practicing medicine without a license. They were fined $100 each and received orders to get over the state line.

While waiting in the prosecutor's office, one of these men attempted to destroy papers which, when seized, were found to have the names and addresses of the patients and diagnoses (the latter grossly mispelled) of the victims they had already seen. There were ten of these altogether, it seems, and the quacks had apparently collected fees of from $1 to $15, the aggregate coming to about $116.

Their system, as explained in consultation with the trial judge, was to the effect that the chief quack, Ricker, conducts a so-called Temple of Health, having its headquarters at 205 North Sixth Street, Richmond, Ind. At this location, Ricker is said to treat patients personally and for a fee of $15 to train operators, such as those that were apprehended by the officials at Ann Arbor. The latter go out on a salary of $30 a week and expenses. The money they take in goes to Ricker.

When dupes come to the agent they are given an immediate "treatment" by the means of laying on of hands—and the taking off of cash. The victims' names are then sent to the Temple of Health and they get two treatments daily (of the "absent" or Eddyite type) through the subconscious mind of Quack Ricker.

Of course, fakes of this kind would be practically impossible of operation were it not for the willingness on the part of certain newspapers to share in the profits of this kind of quackery. Health Officer Wessinger writes that, in addition to the ten victims who had already parted with money to these quacks, there were about twenty-five more who were anxious to be separated from their cash. The health officials have taken up the matter of such fake advertising with the local paper, requesting a public disclaimer of any intent to assist in such a fraud. It will be interesting to see whether the *Times-News* publishes such a disclaimer.

Etiology of Tropical Diseases.—Speaking generally, the natives of tropical countries are not injuriously affected by the meteorological conditions of the climates they live in, any more than are the inhabitants of more temperate climates; their physiological activities are attuned by heredity and habit to the conditions they were born into. The European, it may be, on his first entering the tropics, and until his machinery has adjusted itself to the altered meteorological circumstances, is liable to slight physiological irregularities, and this more especially if he persist in the dietetic habits appropriate to his native land. . . . It is in their specific causes that the difference between the diseases of temperate climates and those of tropical climates principally lies.—Manson-Bahr.

Correspondence

MEDICAL EDUCATION: THE EXPERIENCE OF A TEACHER

To the Editor:—Since Dr. Pusey so forcibly brought the question of revision of medical education to the attention of the Association, the subject has been widely discussed and no solution has been reached. I believe, however, that there is an almost universal consensus that: (1) medical education is too expensive; (2) there are too many physicians in the cities; (3) there are too few physicians in the country; (4) there are too many specialists. There seems to be a fifth corollary: There is too much regulation. There are many, nevertheless, who reject this idea and demand the converse. It is suggested that the situation may be improved, if not remedied, by (1) omitting the two premedical years, and (2) shortening the medical course by a year, thus gaining three years with a probable reduction in cost of a thousand dollars a year. That there are more men who can spend $7,000 gaining a medical education than there are men who can spend $10,000 will not be controverted. That this will increase the number of men graduating is certain, and that some who cannot make a living in the city will be forced to the country seems true.

For thirty years a teacher of gross human anatomy, I have had many opportunities to test the knowledge gained by different methods both by personal observation and by report from many competent observers. My opinion, confirmed by many, is that the present research method does not train as thoroughly as did our older method, and takes far more time. It must be a matter of common observation that a small percentage of our students are capable of the highest types of research work, while almost any one of fair intelligence may be trained to do the routine work of the laboratory, and to write those mediocre papers which are the bane of every science. But a large majority of medical students can make competent physicians if they are given proper instruction, particularly in fundamental branches. I claim that such instruction in gross anatomy was given at the University of Virginia for many years; that that institution turned out many men who were or are leaders in their several communities; that not a few of these men have done research work of a high, though perhaps not the highest type, and that the instruction in that branch did not demand much more than half the time now devoted to the same subject. Other subjects were, of course, as ably and as concisely handled; but my business is with anatomy, leaving the teachers of chemistry, physiology, etc., to state their cases.

Of course, under the method pursued, students were not required to spend so much time in the laboratory and did less actual dissecting; but they saw far better dissections and they were permitted to spend many hours, which did not appear in the schedule, in the study of these dissections. One hour given voluntarily is worth at least two of compulsory attendance. Every student should have free access to the anatomic laboratory at any hour, day or night, that suits his convenience. Students of the University of Virginia were required to do dissecting on two bodies. On the first body, demonstrations from dissections were made of muscles, fascia and viscera and joints. The second was devoted to the study of arteries, veins, lymphatics and the nervous system, with particular attention to relations, a point so underemphasized in the nearly universally used Cunningham's book as to leave a student almost entirely ignorant of this branch of knowledge, vital to both diagnostician and surgeon. A passion for detail has almost destroyed the value of Cunningham's book. Its author was evidently one of nature's teachers; its reviser as evidently one of her pedants. I would not criticize such a work were I not confident that the immense amount of detail seriously diminishes the student's knowledge. Formerly it was a book for students, perhaps too elaborate; now it is that impossible absurdity, "a book for students and investigators." Nothing so hurts the student as an attempt to teach too much. As my old teacher, Towles, expressed it, "you can't put more in the door without throwing something out at the window."

I would urge that the Council permit individuality on the part of the colleges, being certain that all efforts at uniformity must end in mediocrity and that the only legitimate offspring of conformity is hypocrisy.

I would urge the necessity of having medical men to teach medical subjects—men with at least enough experience to be able to distinguish between the important and the relatively unimportant, not mere graduates in medicine who have become teachers and perhaps laboratory experts with no practical experience in medicine or surgery; and I especially urge that teachers be selected because they can teach and because of their capacity for stimulating a desire for knowledge in that particular department in which they labor.

W. G. CHRISTIAN, M.D., Charlottesville, Va.

STOMATOLOGY IN ENGLAND

To the Editor:—The British Stomatological Association, whose committee on organization has been appointed to draw the details of form of organization suitable for England, at its meeting held, July 27, at the Medical Society of London, endorsed the principles of the Association stomatologique internationale.

The aim of the International Stomatological Association is: (1) to establish stomatology, or the care of the mouth and teeth, as a specialty of medicine throughout the world, to be ultimately practiced by medically qualified dentists, that is, stomatologists; (2) to enlist the cooperation of medically qualified dentists, nonmedically qualified dentists, and medical practitioners to foster the stomatologic idea for the protection of public health; (3) to invite dentists, with no medical qualification but who accept the stomatologic doctrine, to join the stomatologic societies of their respective countries.

The meeting brought forth the idea that, in England, dentistry is proceeding along the path of stomatology and is not taking the direction of dentistry in the United States. In England, dentistry is considered as a branch of medicine, and it is because of economic reasons that not many dentists have the medical qualification. Dental students are encouraged and given actual assistance to obtain the medical qualification, in contrast with the tendency in the United States to keep dental teaching apart from the medical school and autonomous.

Sir W. Arbuthnot Lane, in his address of welcome, pointed out the soundness of the idea that dentists should be trained as medical specialists, not merely mechanics, along similar lines to that of the ophthalmologists, otologists and other medical specialists.

Mr. J. Clifford Wing, chairman of the Public Service Association, showed that there has been an increase in dental service for the large masses of the population as a result of the organized efforts of his organization.

Dr. J. Lewin Payne, dental examiner of the Royal College of Surgeons, explained the progress of dental education in England and its alliance with medicine. He pointed out very emphatically that, "in England, dentistry is recognized as a special branch of surgery and the dental departments constitute a part of the medical faculty."

Mr. Fred Buterfield, secretary of the Incorporated Dental Society and member of the Dental Board of the United Kingdom, stressed the need of the united organization of the dental profession to oppose those measures which may be introduced by the insurance companies and the government, detrimental to public health.

These addresses were followed by a discussion of the international situation concerning stomatology and dentistry and how the educational and professional status of the profession in different countries has an effect on public health problems. The chairman of the evening, Dr. A. Templar Barritt, dental surgeon to the French and National hospitals, invited general discussion.

There are now in England four classes of practitioners, taking the medical qualification as a standard:

Class A. Those with a medical qualification (holding the M.R.C.S., the L.R.C.P., or both, the surgical and medical qualification) and the dental qualification (L.D.S.).

Class B. Those with no medical qualification and only a dental qualification.

Class C. Those having a medical qualification but no dental qualification.

Class D. Those having neither medical nor dental qualifications. These practitioners are the so-called "registered dentists" (R.D.P.). These are dental mechanics who registered either (*a*) under the dentists' act of 1878 or (*b*) under the dentists' act of 1921.

According to the dentists' register of 1925, the number of practitioners of Class A was 646; Class B, 4,801; Class C, figures not definite; Class D*a*, 984; Class D*b*, 7,296. The total number of registered dentists in the United Kingdom for 1925 is 13,727, plus fifty-nine colonial dentists and thirty-two foreign dentists. Of the total number (13,818), about 39 per cent. have a dental qualification and 60 per cent. have no qualification, but are permitted to practice by virtue of the registration acts of 1878 and 1921.

The British Stomatological Association will send a delegation to the meeting of the International Stomatological Association, which will be held in Paris, October 20. The members of the committee are: chairman, A. Templar Barritt; secretary, A. K. Ince Jones; C. Bowdler Henry, F. Montuschi, A. M. Nodine, A. K. Wallace and J. Sim Wallace.

ALFRED J. ASGIS, New York.

BIRTHS ATTENDED BY MIDWIVES IN MINNESOTA

To the Editor:—A misstatement concerning the number of births reported by midwives in Minnesota occurs in Dr. S. Josephine Baker's recent book on "Child Hygiene," Harper and Brothers, 1925, Chapter V, page 120: "Minnesota reports that over 75 per cent. of its births are cared for by midwives." According to the records of the Division of Vital Statistics of the Minnesota State Board of Health prepared from the original birth certificates, less than 6 per cent. of the births occurring in this state are attended by midwives. During the summer of 1923, a survey of the midwife situation in Minnesota was made by the Division of Child Hygiene. A definite increase in the number of births attended by physicians occurred during 1918-1922, over 85 per cent. of the births having medical attendants in 1922. There is also a proportionate decrease in the number of births attended by midwives or with no attendant. The results of this survey have made us feel that, because of the fact that most of the midwives are older women and are not being replaced by young women, and the fact that the absolute and relative amount of work they are doing is decreasing, our midwife problem in Minnesota is practically negligible.

In a recent study made by Dr. F. L. Adair and Dr. C. O. Maland of Minneapolis of the births occurring in Minneapolis and St. Paul from 1913 to 1923, it was found that 65 per cent. of the deliveries in these two cities occur in hospitals.

A. J. CHESLEY, M.D., St. Paul.
Executive Officer, Minnesota
State Board of Health.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SUPSALVS — MERSALV

To the Editor:—Please give me any information as to (1) "supsalvs" suppositories, put out by the Anglo French Drug Company, 1270 Broadway, New York; (2) also "Mersalv," supposed to contain 10 per cent. of metallic mercury. These are recommended especially for patients that may not be able to take neo-arsphenamin, and in some ways it does look as though such compounds would be absorbed by rectum. Withhold my name, if you don't mind.

M.D., Missiasippi.

ANSWER.—1. In 1920, the Council on Pharmacy and Chemistry reported unfavorably on Supsalvs (THE JOURNAL, Oct. 30, 1920, p. 1219). The report of the Council brought out that the claimed efficacy of the preparation as a means of securing the effects of arsphenamin lacked substantiating proof. At the request of the Council, Littman and Hutton, of the Department of Dermatology and Syphilology of Western Reserve University and the Cleveland City Hospital, investigated the effectiveness of arsphenamin administered by rectum. They published a critical report of the literature and the results of clinical trials (THE JOURNAL, March 15, 1924, p. 868). From their studies, the authors conclude that the clinical results obtained from the rectal administration of arsphenamin were too feeble, as compared with treatment by the intravenous or intramuscular methods, to warrant favorable consideration of this treatment in congenital syphilis.

2. Mersalv is claimed to be a "mercurial cream for inunction." The identity of the ingredients which form the base of Mersalv is not declared by the manufacturer. There is no good evidence to show that Mersalv—or any other proprietary mercurial preparation—is therapeutically superior to the official ointment of mercury.

STERILITY OF PERSONS OF MIXED BLOOD

To the Editor:—In *State* v. *Jackson*, 80 Mo. 175, decided in 1883, appears the following statement: "It is stated as a well authenticated fact that if the issue of a black man and a white woman and of a white man and a black woman intermarry, they cannot possibly have any progeny and such a fact sufficiently justifies those laws which forbid the intermarriage of blacks and whites, leaving out of view other sufficient grounds for such enactments." Is the alleged fact stated by the court true?

———, Washington, D. C.

ANSWER.—The evidence on which the court based this statement is not available. No facts are known that support such an assertion. Persons of mixed blood do marry and do have children. No recorded observations have been found to show that that fact is in any way modified by the circumstance that the Caucasian strain is derived by the husband from his male or his female parent and is derived by the wife from her parent of the sex opposite that from which her husband derived it. There is no biologic reason for believing that that circumstance would in any way modify the fertility of the union.

DERMATITIS HERPETIFORMIS

To the Editor:—Please give me, through Queries and Minor Notes, current opinion as to the etiology, prognosis and treatment of dermatitis herpetiformis.

A. S. BOSWORTH, M.D., Elkins, W. Va.

ANSWER.—The etiology of dermatitis herpetiformis remains unknown. It occurs in all classes of people and from infancy to old age. It is neither contagious nor incurable. It is thought by some to be due to a toxin, either endogenous or exogenous, acting on the nervous and on the vasomotor systems. The eosinophilia both in the blood and in the

vesicle content suggests that the disorder is of hematogenous origin.

The prognosis is uncertain, as the disorder is characterized by exacerbations and remissions, either of which may be of weeks' or months' duration. There is usually no disturbance of the general health of the patient aside from the nervousness occasioned by loss of sleep due to the pruritus. The disorder may continue throughout life, but not infrequently the attacks become less and less severe and the remissions longer and longer until the malady disappears.

Arsenic is the drug most recommended at present. Beginning with 3 drops of solution of potassium arsenite three times daily, the dose is increased by 1 drop every fourth day until 10 or 12 drops are taken. Usually by the time the limit of tolerance is reached the itching ceases and the eruption begins to undergo involution. The use of autogenous serum has also been advised. This consists in withdrawing 120 c.c. of blood, which is allowed to clot at room temperature. The serum is decanted, centrifugalized and injected intravenously three or four hours after the withdrawal. As a rule, from 30 to 40 c.c. of serum can be recovered. From five to ten such treatments are given at five day intervals.

The subcutaneous injection of peptone solution has been reported to have given excellent results in a few cases.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, Sept. 1. Sec., Dr. Harry C. De Vighne, Juneau.

COLORADO: Denver, Oct. 6. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

IDAHO: Boise, Oct. 6. Commissioner of Law Enforcement, Mr. F. A. Jeter, Boise.

ILLINOIS: Chicago, Oct. 6-8. Director, Mr. A. M. Shelton, Capitol Bldg., Springfield.

MINNESOTA: Minneapolis, Oct. 6-8. Sec., Dr. Thomas S. McDavitt, Lowry Bldg., St. Paul.

MONTANA: Helena, Oct. 6. Sec., Dr. S. A. Cooney, Power Bldg., Helena.

NATIONAL BOARD OF MEDICAL EXAMINERS: Part III, Baltimore, Oct. 15. All applications for this examination must be made on or before Oct. 1. Sec., Dr. J. S. Rodman, 1600 Walnut St., Philadelphia.

NEW HAMPSHIRE: Concord, Sept. 10-11. Sec., Dr. Charles Duncan, Concord.

NEW YORK: Albany, Buffalo, New York City and Syracuse, Sept. 21-24. Chief, Education Dept., Mr. Herbert J. Hamilton, Albany.

OKLAHOMA: Oklahoma City, Sept. 8-9. Sec., Dr. James M. Byrum, Shawnee.

PORTO RICO: San Juan, Sept. 1. Sec., Dr. Diego A. Biascoschea, 3 Allen St., San Juan.

RHODE ISLAND: Providence, Oct. 1. Sec., Dr. Byron U. Richards, State House, Providence.

UTAH: Salt Lake City, Oct. 6. Director of Regis., Mr. J. T. Hammond, 412 State Capitol Bldg., Salt Lake City.

WYOMING: Cheyenne, Oct. 5-7. Sec., Dr. G. M. Anderson, State Capitol, Cheyenne.

Georgia June Examination

Dr. C. T. Nolan, secretary, Georgia Board of Medical Examiners, reports the written examination held at Atlanta and Augusta, June 2-3, 1925. The examination covered 10 subjects and included 100 questions. An average of 80 per cent. was required to pass. Eighty-four candidates were examined, all of whom passed. Twelve candidates were licensed by reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Emory University.....(1924) 92, (1925, 5) 88, 88, 89, 89, 90, 90, 90, 90, 90, 90, 91, 91, 91, 91, 91, 91, 91, 91, 91, 91, 92, 92, 92, 92, 92, 92, 92, 92, 92, 92, 92, 93, 93, 93, 93, 93, 93, 93, 93, 93, 93, 94, 94, 94, 94, 94, 94, 95, 95, 95, 95		
University of Georgia.....(1925, 25) 86, 88, 89, 89, 89, 90, 90, 90, 90, 90, 90, 91, 91, 91, 91, 91, 92, 92, 92, 92, 93, 94, 94		
Columbia University Coll. of Physicians and Surgeons..(1923)		91
Medical College of Virginia.....(1921)		93
University of St. Thomas Medical Dept., Manila.....(1910)		83

LICENSED BY RECIPROCITY

College	Year Grad.	Reciprocity with
Georgetown University .....(1915)		Nebraska
Tulane University.....(1920), (1923)		Louisiana
Johns Hopkins University.....(1921)		Maryland
Mississippi Medical College.....(1909)		Florida
Medical College of the State of South Carolina.....(1923)		S. Carolina
Meharry Med. Coll....(1912) South Carolina, (1923), (1924)		Tennessee
University of Tennessee.....(1923), (1924, 2)		Tennessee

Book Notices

THE INHERITANCE OF MENTAL DISEASES. By Abraham Myerson, Professor of Neurology, Tufts College Medical School. Cloth. Price, $5. Pp. 336, with illustrations. Baltimore: Williams & Wilkins Company, 1925.

HEREDITY IN NERVOUS AND MENTAL DISEASE. A Series of Investigations and Reports by the Association for Research in Nervous & Mental Disease. Volume III [1923]. Cloth. Price, $3.75. Pp. 332, with 48 illustrations. New York: Paul B. Hoeber, Inc., 1925.

Dr. Myerson's book is divided into two parts. The first seven chapters constitute a summary of our present knowledge of mental diseases, presented in a simple manner, such as will appeal particularly to the general practitioner, and inclining largely to minimizing the importance of heredity in the onset of mental diseases. The second part of the volume concerns an analysis of 130 families studied at the Taunton State Hospital, with particular relation to the inheritance of mental defect. Myerson is convinced as a result of his study that it is rare, indeed, that a mental disease persists unaltered for more than two generations, and that it is the tendency of psychiatric families to die out. Furthermore, the tendency of various forms of insanity seems to be to turn gradually toward dementia praecox in their descent. The intricacies of the questions raised by his detailed study cause Myerson to conclude that much more information is needed before we can make any generalization on this problem. He says:

> We have a right, I think, to pass laws that no one shall conceal the fact of mental disease when entering upon marriage and that the concealment of such disease shall be a cause for annulment, whether or not the individual was insane at the time of marriage. We have a right to ask for the sterilization of those types of feeblemindedness which we know to run in families. Wherever mental disease exists in a family group for more than one generation, it would be wise for society to sterilize those of the second generation who go to institutions. I do not believe that we can ask much more than that in the present state of our knowledge, and we cannot afford to be unduly dogmatic. The common sense and stolidity of legislatures, what seems to be stupidity, is often enough justified by the dogmatic attitudes of science, a dogmatism hard to understand by one who knows the history of the theories of science.

At the same time as Dr. Myerson's volume becomes available, the Association for Research in Nervous and Mental Diseases presents the transactions of its session in 1923, which was devoted wholly to the question of heredity in nervous and mental diseases. The volume includes essays by many investigators in this problem, together with the discussions of those who attended the session. In the first chapter the present-day situation is outlined, including the character of the problem, the cellular basis of inheritance and the significance of various exogenous and endogenous factors. In the second chapter, Dr. Smith Ely Jelliffe discusses the parts of the central nervous system that tend to exhibit morbid recessive or dominant characters. The third chapter takes up the pathologic changes demonstrated in the bodies of those suffering from the effects of heredity and familial diseases of the nervous system, naturally leading to the view that it is the anatomic condition that is inherited, rather than the mental change. Other sections deal with heredity in the psychoses, and a final essay by Joseph Collins considers heredity as it appears in fictional literature.

A PRACTICE OF GYNAECOLOGY. By Henry Jellett, M.D., F.R.C.P.I., Consulting Obstetrician to the Department of Public Health of New Zealand. Fifth edition. Cloth. Price, $8.50. Pp. 744, with 432 illustrations. Philadelphia: Lea & Febiger, 1925.

This book is a comprehensive work on practical gynecology, printed in large type, on good paper, and profusely illustrated, including fifteen colored plates. This edition shows careful revision, and numerous additions have been made. The chapter on menstruation is adapted chiefly from Novak's monograph, and due credit is given to this author for his contribution. Endocrine therapy is discussed at length, and a conservative attitude adopted. Under this heading, Clark is quoted as saying: "Endocrine therapy is coming to bear suspicious resemblance to medieval magic," which is indeed expressive of the status of this form of treatment. The chapter on sterility is exceptionally concise and represents an epitome of the latest advance in this field.

Considerable space is given to the Rubin patency test, although credit is given to Rubin and Peterson alike for the development of the test for patency of the fallopian tubes, and the induction of pneumoperitoneum for radiography of the pelvic organs. The indications and contraindications for tubal patency are stated, and Peterson's posture for pelvic radiography after pneumoperitoneum is illustrated. A whole chapter is devoted to vaccine therapy in gynecology, giving it far greater importance than most American authors attribute to it. A splendid tribute to Sampson's work on implantation adenomas of the pelvis is offered by Jellett, and a color plate taken from Sampson is reproduced; the subject is thoroughly discussed. As a whole, the work is a splendid textbook and a credit to the author.

MODERN MARRIAGE. A Handbook. By Paul Popenoe. Cloth. Price, $2.50. Pp. 259. New York: The Macmillan Company, 1925.

Books on marriage seem somehow to be rather unnecessary contributions to the literature of advice. People read them and then apparently marry without any reference to what they have read. The large majority of marriages take place without any intelligent selection on the part of either party. Popenoe believes, among other things, that the desire for children is the motive that influences many men in their marriages, and yet one wonders whether he has confused the sexual urge with the desire for children. He says that a census of men who were asked whether they would prefer health, wealth or beauty in marriage brought votes of seventy-nine for health, seventy-six for beauty and twenty-six for wealth, and yet physicians are inclined to believe that health is usually the last consideration in men's choice of women that they marry. The reason, of course, is that it is impossible without a complete physical examination to know the condition of the genital tract and the organs involved in childbirth. He urges rightly early marriage and early childbirth from psychologic and physiologic points of view. In general the advice is sound; it is put plainly, but without the slightest vulgarity, and the book may be recommended by any physician to those who require a volume of this kind. There is added to the book, unfortunately, an introspective account by M. W. of her personal sensations during childbirth. Such an item has no place in the book, and to some extent discounts its value as a volume for the prospective bride.

THE CHALLENGE OF CHILDHOOD. Studies in Personality and Behavior. By Ira S. Wile, M.S., M.D., Assistant Pediatrician and Director of the Health Class, Mount Sinai Hospital. Cloth. Price, $3.50. Pp. 305. New York: Thomas Seltzer, 1925.

In this volume, following a general introduction, Dr. Wile presents the histories of fifty children studied from the physical, the intellectual, the emotional and the social sides with a view to setting forth concretely typical instances involving problems of child care, such as may occur in any home or in any community. The work is essentially, therefore, a contribution to social medicine and an attempt to serve the coming generation in meeting the problems of disease, vice, crime, invalidism, poverty, perversion of function and delinquency at their sources or during their development, and not after the child has become a charge on the community. Dr. Wile, in discussing individual instances, gives facts of importance regarding many similar cases, and calls attention to the scope of the various problems. It is his hope, by studies of the individual child, to establish an understanding that will permit it to fulfil its destiny without falling inadequately beneath the demands of society.

SERUM DIAGNOSIS OF SYPHILIS BY PRECIPITATION: GOVERNING PRINCIPLES, PROCEDURE AND CLINICAL APPLICATION OF THE KAHN PRECIPITATION TEST. By R. L. Kahn, M.S., D.Sc., Immunologist, Bureau of Laboratories, Michigan Department of Health. Cloth. Price, $3. Pp. 237. Baltimore: Williams and Wilkins Company, 1925.

This book discusses in detail the principle of the author's precipitation test for syphilis. The work falls into six parts: introductory, the principles of precipitation and their application to the author's test, special studies, procedure, clinical application, and general considerations, and will be of great interest and value to all who are concerned in the serum diagnosis of syphilis.

AN X-RAY ATLAS OF THE NORMAL AND ABNORMAL STRUCTURES OF THE BODY. By Archibald McKendrick, F.R.C.S., D.P.H., F.R.S.E., Surgeon-inCharge of the Surgical X-Ray Department, Royal Infirmary, Edinburgh, and Charles R. Whittaker, F.R.C.S., F.R.S.E., Assistant Lecturer on Anatomy, Surgeons' Hall, Edinburgh. Cloth. Price, $10. Pp. 222, with 388 illustrations. New York: William Wood & Company, 1925.

In this volume, sixty roentgenograms picture the normal joints and the different appearances presented by the alteration of the focus point. The authors have selected excellent plates from various collections, and these are reproduced on a high quality of enameled paper. They will serve to provide many a tyro with opportunity for acquiring exeprience through the study of typical plates.

Miscellany

AN UNPUBLISHED BEAUMONT LETTER

J. E. LANE, M.D.
NEW HAVEN, CONN.

This letter of William Beaumont was written to his cousin Andrew Beaumont, at that time a member of Congress from Pennsylvania. Andrew Beaumont's reply to this letter is evidently the letter found on page 240 of Myer's Life and Letters of Dr. William Beaumont. This letter was presented to the Beaumont Medical Club by André A. Beaumont of Wilkes-Barre, Pa., the grandson of Andrew Beaumont. The letter is deposited in the Yale University Library. It seems to me to be of sufficient interest to publish.

Jefferson Barracks, Mo.
21st October, 1834.

Yours, My Dear Cousin, of June 24th, was rec'd here, via Plattsburgh, in August. The perturbation of my feelings occasioned by your *hyperbolical* communication, had ceased long before it reached me. You may make the same allowance for the expressions in my reply, as you ask of me for that communication. I think they were both written in about the same strains of excentricity. No unpleasant impressions remain on my mind, and I hope, & *trust*, none remains on yours, or any other of my *Congressional friends*, Surely there ought not.

I rec'd the *"Old man of the River's"* paper too, & I think he might as well have written a little more on the margin when he was about it; but I suppose he was in a great hurry, as usual.

I am happy indeed, & highly gratified to perceive that you are a fair candidate to fill again, that seat you so faithfully and creditably occupied in Congress last session. I wish you *intire* and *infallible* success, & triumph over your political opponents, & personal enemies. I am no politician, nor meddle I much with politics. Physic is my forte: but if I infer rightly from the Public journals of the day, *Democracy is rising in its majesty*, the Administration party, becoming more & more triumphant, and the Heroic old General & "the Constitution must and will be sustained."

I have concluded to renew my Memorial to Congress for an appropriation &c., at the ensuing session. I have consulted our friend Dr. Linn. He advises me to do it, & has very kindly offered to take an active part in bringing it forward, & seems to feel a lively interest in my success. I have submitted to him the Documents, & the management of them, in concert with such other of my good friends as may feel an interest & are willing to second his efforts; amongst whom, I rank you the highest.

Will you take an early opportunity to consult with him on the subject & devise the most eligible plan of proceeding?

Have it brought up early in the session as possible. Dr. Linn has a Memorial in his possession, purporting the facts & particulars of the case. Another, corresponding with the Amendment offered by Mr. E. Everett in the House last winter, was left with the comtte. of Finance in the Senate, of which Mr. Webster was chairman, at the close of last session, & *not* acted upon, as I have been able to learn. This, with its accompanying papers, may be obtained, I suppose, if necessary.

I shall leave it discretionary with you & Dr. Linn, which to bring forward, with such modifications as you may think

most advisable. I shall rely much on you & Dr. L. for success. I know your zeal & ability, and doubt not your willingness to do all you can for me.

I may be there this winter again: but it is yet doubtful. I hope to get away from here next Mo. to go for my family, now at Plattsburgh N. Y. If I do, I intend to take Washington in my route.

Let me hear from you when convenient or necessary, & address your letters to Plattsburgh N. Y. till otherwise advised. I hope you will promptly & freely advise me of any & everything further to be done on my part, & use all proper means to incline the minds of members to my advantage. Urge the great expense I have already incurred, & what am incurring. If *5,000$ cant be obtain'd*, get less, 1825$ will not 1/3d remunerate my expenses, but if you cant get more take that. "Go a head".—

Tell me whether or not, in your opinion, it will be advisable for me to write to such members as I may be acquainted with, on the subject of my Memorial about the time of the commencement of the session, so as to jog their memories & excite their favorable interest to the subject. Would it conduce any to the promotion of the object in view? Will not your personal remarks & influence be preferable & far more effectual? Just state to me, frankly, your views & opinion on the subject.

I frequently hear, indirectly, from your friend, Dr. Wright, of the Army. He is now at Fort Gibson, and in health, I believe, though he has been sick during the summer. I saw [his] brother, the Pay Master, a few days ago. He [felt] sure the Doctor would try to get to Fort Crawford in the spring. I hope he may, for I have selected that as my station, whenever I again go to permanent duty. I have not given up the Experiments, nor my tour to Europe, yet, though my *rascally Frenchman* has again absconded to Canada, & will put me to the trouble & expense of getting him back, when I go north.

My kind & cordial respects to your family, & to Miss Elizabeth Wirt. When you go to the metropolis, impress them *firmly & sweetly* upon those beauty-blushing cheeks, if she will permit you. No offence to *our dear wives*, however, I hope,

Truly & Respectfully,
Yr Cousin & friend
Wm. Beaumont

NEW METHOD FOR TESTING HEMATIMETERS

The Bureau of Standards of the Department of Commerce has devised a new apparatus for testing the accuracy of hematimeters by means of the interference of light waves. The new instrument consists, briefly, of two interferometer plates, a so-called anvil and an optical arrangement for observing the interference fringes. Each fringe observed through the eye piece between two reference marks denotes a displacement of 0.5 micron (0.0005 mm.) of the contact point of the instrument from its zero position; when four fringes are observed, the error in the depth of the counting chamber is about 2 microns (0.002 mm.), and that is the limit of tolerance. Such a hematimeter would be discarded. Not only the depth of the counting chamber can thus be tested for accuracy, but the planeness of the central and supporting surfaces and the planeness of the cover glass as well. The interferometer method of testing is sufficiently sensitive to note an irregularity of 0.3 micron in the surface of the ruled square, and a chamber can be tested in one or two minutes. For years the Bureau of Standards has been testing and certifying hematimeters by means of an apparatus having a scale and a micrometer microscope. This method was laborious, requiring about ten minutes to test each chamber, and the unavoidable error in some cases was as large as 1 micron. The average error with the interferometer in testing high quality chambers is only about one fifth as large as with the micrometer apparatus. Blood counting is one of the most useful of all the tests that are performed with instruments. At any one of the various steps, however, it is open to inaccuracies which depend partly on the skill of the operator and partly on the quality of the hematimeter. The new method of testing of the Bureau of Standards will lead to a better quality of blood counting apparatus and, it naturally follows, to improvements in clinical observation.

Medicolegal

Reliance on Roentgenograms to Show Fracture—Roentgenologist—Opinions of Physicians

(Pearson v. Crabtree et al. (Calif.), 232 Pac. R. 715)

The District Court of Appeal of California, Second District, Division 1, in reversing a judgment which the plaintiff obtained against a physician and against a roentgenologist, says that the plaintiff was injured in a street car accident and taken to an emergency hospital where the defendant physician after examining him informed him that it was probable that there might be an impacted fracture of the left hip, but that he could not be positive about it without a roentgenogram, and suggested his being taken to another hospital and having a roentgenogram taken of his injured limb. At the latter hospital the defendant roentgenologist took two roentgenograms of the hip and the next day advised the physician that they disclosed no evidence of bone injury; and the physician, without any further or other examination of the plaintiff, told him that he might go home; that the only treatment necessary for his injury was to put hot water applications on the hip in order to relieve the pain from the sprain which he had received. About ten days later the plaintiff was taken to the physician's office, told him that he was suffering intense pain, and asked him to make a further examination of the limb, but the physician said that he was only suffering from a sprain, had received no bone injury, and would probably be around in a couple of weeks. At about this time the street car company made a settlement with the plaintiff. Three weeks later the plaintiff had additional roentgenograms taken, which showed that he had sustained an impacted fracture of the hip, which had already healed in an unnatural position. The testimony of the physicians and roentgenologists called as witnesses was to the effect that an impacted fracture would not on all occasions show on roentgenograms taken within a short time after the injury, and that this was a matter of common knowledge not only among roentgenologists but also among physicians and surgeons, for which reason the common and accepted practice among physicians and surgeons was not to rely entirely on roentgenograms in diagnosing injuries such as that sustained by the plaintiff, but, in addition to the use of the roentgen ray, to make a most thorough physical examination of the injury. In the opinion of the court there was sufficient evidence to warrant the jury in rendering a verdict against the physician.

The plaintiff contended that the defendant roentgenologist was negligent in failing to take roentgenograms of the right hip in connection with those taken of the left hip, in order that by comparing the roentgenograms of the left hip with those of the right the fracture might have been discovered. But there was nothing in the testimony in the case to show that it was necessary to take roentgenograms of both of the plaintiff's hips. Nor was there anything in the testimony to show that it was customary among roentgenologists, in cases like that of the plaintiff, to take roentgenograms of both hips. The defendant roentgenologist, in the treatment of the plaintiff's injury by the use of the roentgen ray, was only required to use such reasonable care, skill and diligence as were usually or customarily exercised by others in the same line of practice and work in similar localities, or in the same section of the country. There was no showing that he did not meet the requirements of this rule, and without such proof the evidence failed to show negligence on his part, and it was therefore insufficient to support the verdict against him.

The questions involved in the charges—that the roentgenologist was negligent in failing to take roentgenograms of both hips and that the physician was negligent in relying wholly on the roentgenograms taken and in not supplementing the knowledge acquired by means of them by a careful and thorough physical examination of the hip, could be solved only by a resort to the knowledge of those learned in the practice of medicine and surgery and in the use and purpose of roentgenograms. Consequently it was error to instruct

the jury that the opinions of the physicians were merely advisory, and that the jury was not bound to accept them, but might disregard them altogether, if from all the facts and circumstances in the case it believed them unreasonable.

Hearing denied by the Supreme Court of California.

Hospital Not Liable for Injury to Patient from Fall

(D'Amato et ux. v. Orange Memorial Hospital (N. J.), 127 Atl. R. 340)

The Court of Errors and Appeals of New Jersey, in affirming a judgment entered on a directed verdict for the defendant, says that one day while Mrs. D'Amato was a pay patient in the defendant hospital and was in a wheel chair, the nurse in charge attempted to remove her from the chair and place her in bed, but while the transfer from chair to bed was going on the patient fell out of the chair, broke her left kneecap, and sustained other injuries. Mr. and Mrs. D'Amato brought this action to recover damages for the injuries sustained by the wife, with the usual consequential damages to the husband. The trial judge, in deciding the motion to direct a verdict for the defendant, took occasion to observe that there is a difference in the decisions in the various states regarding the responsibility of charitable hospitals for the negligence of their physicians and nurses, some holding liability, others immunity; and he adopted the rule which to him was the more convincing—that of nonliability, and in thus deciding this court thinks he was right. In this court's opinion, public policy requires that a charitable institution maintaining a hospital be held not liable for injuries resulting to patients through the negligence or carelessness of its physicians and nurses, even if the injured person were a pay patient; payment for board, medical services, and nursing in such case going to the general fund to maintain the charity. However, the court is not required in this decision to go so far as to hold that a charitable corporation maintaining a hospital might not be liable to a patient, if carelessness were shown in the selection of the agent responsible for the injury, as that question was not raised in this case. The defendant, having been organized under an act providing for the incorporation of charitable institutions, was presumed to be a charitable institution unless the contrary appeared, and in this case there was no such showing.

Death After Operation Not Caused by Accidental Means

(Cladwell v. Travelers' Ins. Co. (Mo.), 267 S. W. R. 907)

The Supreme Court of Missouri, in reversing a judgment obtained by the plaintiff as beneficiary on two policies of accident insurance where the insured was operated on for abdominal and umbilical hernias and died five days later from an intestinal obstruction, says that, under the terms of the policy, the plaintiff must offer substantial evidence tending to show that her husband's death resulted "from accidental injuries, . . . through . . . accidental means," and that the sole question was what is meant by "accidental means." It cannot be doubted that what the surgeon did in performing the operation at the request and under the employment of the insured was the act of the insured, just as much as if the insured had performed the operation with his own hands. This was true under the rule that what one does through another he does himself.

There are two clearly defined lines of cases on this question. One holds that, where an unusual or unexpected result occurs by reason of the doing by the insured of an intentional act, where no mischance, slip or mishap occurs in doing the act itself, the ensuing injury or death is not caused through accidental means; that it must appear that the means used was accidental, and it is not enough that the result may be unusual, unexpected or unforeseen. The other line of cases holds that, where injury or death is the unusual, unexpected or unforeseen result of an intentional act, such injury or death is by accidental means, even though there is no proof of mishap, mischance, slip or anything out of the ordinary in the act or event that caused such injury or death. The Missouri cases that have discussed the question have followed the second line of cases that, when the injury is the unexpected result of an intentional act, such injury should be considered as occurring through accidental means. But this court now concludes that the rule in Missouri, so far as the law has been declared by the courts of appeals, is out of harmony with the best-considered cases elsewhere, and is not in accord with sound reasoning.

In the sense that the word "means" was used in the policies in this case it was equivalent to cause. The defendant insured only against death or injury suffered through accidental means or cause. Assuming that the insured's death was caused by the operation voluntarily undertaken and admittedly performed in a skilful manner, the plaintiff must show that something unforeseen, unusual or unexpected and unintended occurred during the progress of the operation, and that this something cause the insured's death. The plaintiff offered only proof tending to show that an unforeseen, unusual and unexpected result followed the performance of an apparently necessary surgical operation undertaken at the request of the insured and skilfully performed. She was therefore not entitled to recover on the policies. The decisions of the courts of appeals holding contrary views should be overruled.

Again, the defendant contended that its demurrer to the evidence should have been sustained because the conclusion as a fact that the insured died as a result of the operation for the hernias could be reached only by mounting inference on inference; that is to say, it must first be inferred that the obstruction of the bowel, conceded to have been the immediate cause of death, was brought about by a thrombus in the mesenteric artery, and then it must be further inferred that the thrombus was caused by the operation. But, in the view taken by the supreme court, it was unnecessary to pass on this contention.

Society Proceedings

COMING MEETINGS

American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Hot Springs, Va., Sept. 16-18. Dr. James E. Davis, 111 Josephine Avenue, Detroit, Secretary.

American Electrotherapeutic Association, Chicago, Sept. 15-17. Dr. Richard Kovacs, 223 East 68th Street, New York, Secretary.

American Roentgen Ray Society, Washington, D. C., Sept. 22-25. Dr. Charles L. Martin, Baylor Hospital, Dallas, Texas, Secretary.

Association of Military Surgeons of the United States, New York, Oct. 8-10. Col. J. R. Kean, U. S. Army, Ret., Army Medical Museum, Washington, D. C., Secretary.

Colorado State Medical Society, Colorado Springs, Sept. 29-Oct. 1. Dr. F. B. Stephenson, Metropolitan Building, Denver, Secretary.

Delaware State Medical Society, Wilmington, Oct. 13-14. Dr. W. O. La Motte, Industrial Trust Building, Wilmington, Secretary.

Idaho State Medical Association, Pocatello, Sept. 3-5. Dr. J. N. Davis, Kimberly, Secretary.

Indiana State Medical Association, Marion, Sept. 23-25. Mr. T. A. Hendricks, Hume Mansur Building, Indianapolis, Executive Secretary.

Kansas City Clinical Society, Kansas City, Mo., Oct. 5-9. Dr. James R. McVay, Rialto Building, Kansas City, Mo., Secretary.

Kentucky State Medical Association, Owensboro, Oct. 5-9. Dr. A. T. McCormack, 532 West Main Street, Louisville, Secretary.

Michigan State Medical Society, Muskegon, Sept. 8-10. Dr. F. C. Warnshuis, Powers Theatre Building, Grand Rapids, Secretary.

Mississippi Valley Conference on Tuberculosis, Lansing, Mich., Sept. 15-17. Dr. T. J. Werle, 209 W. Shiawassee Street, Lansing, Mich., Executive Secretary.

Missouri Valley, Medical Society of the, St. Joseph, Sept. 30-Oct. 2. Dr. Charles Wood Fassett, 115 East 31st Street, Kansas City, Mo., Secretary.

National Medical Association, Chicago, Aug. 25-28. Dr. Clyde Donnell, 121 Parrish Street, Durham, N. C., Secretary.

Nevada State Medical Association, Elko, Sept. 4-6. Dr. C. E. Piersall, 17 N. Virginia Street, Reno, Secretary.

Oregon State Medical Society, Medford, Sept. 2-4. Dr. C. L. Booth, 1021 Selling Bldg., Portland, Secretary.

Pennsylvania, Medical Society of the State of, Harrisburg, Oct. 5-8. Dr. Walter F. Donaldson, Jenkins Arcade, Pittsburgh, Secretary.

Utah State Medical Association, Salt Lake City, Sept. 7-12. Dr. William L. Rich, Boston Building, Salt Lake City, Secretary.

Vermont State Medical Society, St. Johnsbury, Oct. 15-16. Dr. William G. Ricker, 29 Main Street, St. Johnsbury, Secretary.

Virginia, Medical Society of, Richmond, Oct. 13-16. Miss Agnes V. Edwards, 104½ West Grace Street, Richmond, Secretary.

Washington State Medical Association, Seattle, Sept. 17-18. Dr. C. H. Thomson, Cobb Building, Seattle, Secretary.

Wisconsin, State Medical Society of, Milwaukee, Sept. 16-18. Mr. J. G. Crownhart, 558 Jefferson Street, Milwaukee, Executive Secretary.

Current Medical Literature

American Journal of Pathology, Boston

1: 341-443 (July) 1925

Studies on Endothelial Reactions. IX. Formation of Reticulum in Lesions of Experimental Tuberculosis in Rabbits. N. C. Foot, Cincinnati.—p. 341.

*State of Cardiac Muscle in Hyperthrophy and Atrophy. H. T. Karsner, O. Saphir and T. W. Todd, Cleveland.—p. 351.

*Histologic Alterations of Pancreas in Chronic Passive Congestion. W. C. Von Glahn and R. Chobot, New York.—p. 373.

*Cholesterosis of Gallbladder. S. H. Mentzer, Rochester, Minn.—p. 383.

Arachnid Infection in Monkeys (Pneumonyssus Foxi of Weidman). F. C. Hetwig, Lawrence, Kan.—p. 389.

Mucocele of Appendix with Globoid Body Formation. G. Milliken and C. A. Poindexter, Galveston, Texas.—p. 397.

Effect of Certain Metabolic Changes on Aorta of Rabbits and Guinea-Pigs. O. Saphir, Cleveland.—p. 403.

Studies on Pneumonia Following Nasopharyngeal Injections of Oil. G. F. Laughlen, Toronto.—p. 407.

Pathology of Diabetes; Pancreatic Regeneration. S. Warren and H. F. Root, Boston.—p. 415.

Occurrence of Reticulum in Tumors. N. C. Foot and H. A. Day, Cincinnati.—p. 431.

Cardiac Muscle in Hypertrophy and Atrophy.—Karsner, Saphir and Todd assert that the enlargement of the heart in hypertrophy is due principally to a hypertrophy of the muscle fibers without an increase in the number of fibers. There is no hyperplasia of the fibers. The process is one of pure hypertrophy. The change is accompanied by a distinct tendency toward uniformity in breadth of the fibers. The reduction in size of the heart in atrophy is due to a reduction in size of the muscle elements, with a decrease in the number of fibers of the whole heart. The fibers are more uniform in breadth than in the normal heart. The approach to uniformity in breadth of the fibers of the hypertrophic and atrophic heart, as compared with the normal, gives a new conception of variability as affecting the cardiac muscle in its adaptation to abnormal conditions.

Histology of Pancreas in Passive Congestion.—A comparative histologic study of the pancreas has been made by von Glahn and Chobot in 100 cases of cardiac decompensation and an equal number of cases in which there was no clinical or pathologic evidence of chronic venous stasis. In a large percentage of the cases of chronic passive congestion certain lesions are to be found in the pancreas which are not present in the control series. The distinctive features of chronic passive congestion of the pancreas are: (1) areas of capillary congestion at the periphery of the primary lobules, (2) atrophy of the parenchymal cells in the congested areas, (3) condensation of the connective tissue framework following or accompanying the atrophy of the cells, (4) disappearance of the prezymogen granules in the congested portions. The intensity of these changes in the pancreas follows closely that in the liver in chronic passive congestion, and is directly related to the duration of the final period of cardiac decompensation. There is no evidence to support the belief that chronic interstitial pancreatitis follows chronic passive congestion of the pancreas.

Cholesterosis of Gallbladder.—The wall of the gallbladder has the power to absorb lipoid substances and this absorption is effected probably by a direct passage of the lipoid through the epithelial cells of the gallbladder mucosa. Mentzer studied the gallbladder in a series of 633 necropsies. A total of 46.4 per cent. of persons over 20 had some gross evidence of accumulated lipoid in the wall of the gallbladder. To facilitate the study of lipoid changes in the body, and especially that of cholesterol metabolism, and to obviate the rather unscientific terms of "strawberry" and "fishscale" gallbladders, a term descriptive of these changes has been sought. Inasmuch as it has been proved that the lipoid disturbance seen in the strawberry gallbladder, and the similar conditions, fishscale and papillomatous gallbladders, is essentially a cholesterol one, and inasmuch as the cholesterol content of the brain, suprarenal, liver and blood vessels, at least, undergoes quantitative changes, Mentzer suggests the term cholesterosis.

American Journal of Public Health, Albany, N. Y.

25: 583-672 (July) 1925

Camp Sanitation. C. F. Kendall, Augusta, Me.—p. 583.

Scarlet Fever, Diphtheria and Measles at Willard Parker Hospital, 1924. H. Emerson, New York.—p. 590.

Present Status of Periodic Health Examination. A. N. Thomson, Brooklyn.—p. 595.

American Medical Association and Periodic Health Examinations. J. M. Dodson, Chicago.—p. 599.

Health Examinations Past and Present and Their Promotion in Pennsylvania. E. B. Edie, Uniontown, Pa.—p. 602.

Place of Health Examinations in Practice of Medicine. A. N. Thomson, Brooklyn.—p. 607.

Preventive Medicine and General Practitioner. C. F. Wilinsky, Boston. —p. 610.

Importance of Differentiating Colonaerogenes Group in Examining Water. J. J. Hinman, Iowa City.—p. 614.

Lambton County Health Week. W. J. Bell, Toronto.—p. 620.

Rôle of Federal Government in Promoting Industrial Hygiene. W. S. Bean, Washington, D. C.—p. 625.

Atlantic Medical Journal, Harrisburg, Pa.

28: 621-724 (July) 1925

Diagnosis and Differential Diagnosis of Syphilitic Conditions of Eye and Adnexa. G. H. Cross, Chester.—p. 621.

Diagnosis of Aural Syphilis. F. R. Packard, Philadelphia.—p. 624.

Syphilis of Nose and Throat. G. M. Coates, Philadelphia.—p. 626.

Laryngeal Manifestations of Syphilis. F. O. Lewis, Philadelphia.—p. 630.

More Fundamental Causes of Hay-Fever and Asthma. S. A. Brumm, Philadelphia.—p. 637.

*Early Stages of Cardiovascular Degeneration. C. C. Wolferth, Philadelphia.—p. 640.

*Therapeutic Value of Complete Physical Examination. E. J. G. Beardsley, Philadelphia.—p. 647.

Some Unsuccessful Prostatectomies. T. C. Stellwagen, Philadelphia.—p. 652.

Suprapubic Prostatectomy in Bad Surgical Risks. L. Herman, Philadelphia.—p. 657.

*Treatment of Subacute and Chronic Bronchitis in Childhood. M. Ostheimer, Philadelphia.—p. 664.

Supervision of Dairy Herd is Necessary to Prevent Some Anaphylactic Symptoms in Infant Feeding. H. O. Rohrbach, Bethlehem.—p. 670.

Surgery in Diabetics. E. G. Alexander, Philadelphia.—p. 674.

Catarrh, or Sinusitis. N. P. Stauffer, Philadelphia.—p. 680.

Congenital Defect of Scalp. H. Hirshland, Reading.—p. 684.

Recent Development of Harrisburg Hospitals. D. N. Casey, Harrisburg. —p. 685.

Cardiovascular Degenerative Diseases.—The importance of the cardiovascular degenerative diseases as a cause of death is emphasized by Wolferth. Infections and obesity are apparently the most important factors in etiology. Symptoms may not manifest themselves until the disease is far advanced. Diagnosis and treatment are discussed briefly. It is suggested that the attempt be made to educate the laity to the desirability of periodic examinations.

Therapeutic Value of Physical Examination.—According to Beardsley there is a vastly greater therapeutic value connected with every complete physical examination than one is likely, at first thought, to realize. Such a procedure not only signally benefits the patient, directly and indirectly, but it stimulates in the physician a vigorous and singularly beneficial exercise in the use of what Sydney Miller terms "the muscles of the brain."

Treatment of Bronchitis in Childhood.—Ostheimer's routine treatment consists of good food, three nutritious meals a day, often after a bitter tonic consisting of nux vomica and gentian, with nothing to eat between meals; keeping the child out of doors as much as possible, or, in bad weather, on a covered porch or in a room with the windows open; keeping the windows open all night every night, with covering and clothing enough just to keep the child warm, not to cause perspiration; giving a daily bath, ending with a cool sponge and rubdown; sufficient exercise and rest. When the cough is bad enough to waken the child with a spell of coughing in the early morning, which is a very common symptom, he gives, in warm weather, syrup of the iodid of iron, from 5 to 30 drops, well diluted in from one-third to one-half glass of water, three times a day just after meals, followed by a good scrubbing of the teeth with a stiff toothbrush. During the winter months, however, these children, especially when really underweight, are given instead the pyrophosphate of iron, one-half to 1 grain, in cod liver oil, from one-half to one teaspoonful. If the cod liver oil is used in emulsion, usually double the dose is given.

California and Western Medicine, San Francisco

23: 801-944 (July) 1925

Some Medical Convictions and Meditations. G. MacGowan, Los Angeles. —p. 833.
As Layman Sees Us. E. N. Ewer, Oakland.—p. 838.
Susceptibility to Skin Diseases. G. D. Culver, San Francisco.—p. 842.
Unusual Urologic Lesions. F. S. Dillingham, Los Angeles.—p. 844.
Social Aspects of Free Dispensary. R. E. Ramsay, Pasadena.—p. 846.
*Use of Sodium Thiosulphate in Metallic Poisonings. G. F. Roberts, Salt Lake City, and A. J. Hosmer, Midvale, Utah.—p. 853.
*Backache in Gynecology. F. W. Lynch, San Francisco.—p. 856.
Doctor in Industrial Medicine. E. P. Glaser, San Francisco.—p. 859.
Radiographs of Head in Childhood from Clinical Standpoint. H. D. Eaton, Los Angeles.—p. 862.
Inferiority Complex; Psychiatric Significance. H. W. Wright, San Francisco.—p. 867.
Acute Pancreatitis. C. G. Toland, Los Angeles.—p. 870.

Sodium Thiosulphate for Metal Poisoning.—Roberts and Hosmer have found that sodium thiosulphate is the logical drug of choice in the treatment of acute and chronic poisonings by the group of heavy metals. It materially shortens the length of disability caused by these poisons. Moist applications of a 1 or 2 per cent. solution of sodium thiosulphate are beneficial in the treatment of burns and the dermatitis caused by arsenic and mercury. In acute cases of poisonings by these metals, the original dose of sodium thiosulphate should be 1 gm., intravenously, given once, twice or thrice daily, depending on the symptoms. In a series of more than 100 cases so treated there have been no reactions in either large or small doses, and the only difference in the effects seen following large and small doses is the rate of amelioration of symptoms.

Backache.—A preoperative and follow-up study made by Lynch of 608 patients following gynecologic operations shows that sacral or sacrolumbar backache constituted a complaint in 48 per cent. of cases, being found in 8 per cent. of ovarian tumors, 31 per cent. of fibroids, 46 per cent. of pelvic inflammatory disease, 58 per cent. of suspensions, 75 per cent. of relaxed vaginal outlets, and 23 per cent. of procidentias. Backache may be ascribed to gynecologic pathology because it remained cured for periods ranging from one to eight years in 87 per cent. of the 48 per cent. of the 608 gynecologic cases that had this symptom. Backache, which was cured by gynecologic operation, occurred in the following percentages of the cases: One hundred per cent. in ovarian tumors, 84.5 per cent. in marked retroflexions; 81 per cent. in extensive vaginal relaxations; 73 per cent. in chronic pelvic inflammations; 68 per cent. in fibroids; and 36 per cent. in complete procidentias. Backache in gynecologic conditions is due chiefly to pelvic congestion. Orthopedic conditions were responsible for between 17 and 23 per cent. of the total number of backaches of the series.

Indiana State Medical Association Journal, Ft. Wayne

18: 247-280 (July) 1925

Edema and Nephritis. M. H. Fischer, Cincinnati.—p. 247.
General Practitioner and His Relation to Surgery. M. F. Porter, Fort Wayne.—p. 250.
Traumatic Shock. C. A. Weller, Indianapolis.—p. 253.
Physiotherapeutic Treatment of Chronic Gonorrhea and Its Complications. C. L. Rowell, Chicago.—p. 257.

Journal of Bacteriology, Baltimore

10: 315-412 (July) 1925

Recent Work on Descriptive Chart and Manual of Methods. H. J. Conn, K. M. Atkins, J. H. Brown, B. Cohen, G. J. Hucker and F. W. Tanner.—p. 315.
Metabolism of B. Botulinus in Various Mediums. XXVI. E. Wagner and K. F. Meyer, San Francisco.—p. 321.

Journal of General Physiology, Baltimore

7: 671-768 (July 20) 1925

Carbon Dioxid from Nerve Cord of Lobster. G. H. Parker, Cambridge, Mass.—p. 671.
Inhibition of Cypridina Luminescence by Light. E. N. Harvey, Princeton, N. J.—p. 679.
Effects of Light on Luminous Bacteria. E. N. Harvey, Princeton, N. J. —p. 687.
Relative Importance of p_H and Carbon Dioxid Tension in Determining Cessation of Ciliary Movements in Acidified Sea Water. C. Haywood, Philadelphia.—p. 693.
Critical Increment for Opercular Breathing Rhythm of Goldfish. W. J. Crozier and T. B. Stier, New Brunswick, N. J.
Temperature Characteristic for Heart Beat Frequency in Limax. W. J. Crozier and T. B. Stier, New Brunswick, N. J.—p. 705.
Kinectics of Starvation. II. Loss of Weight in Pigeons Subsisting on Water Alone. N. C. Wetzel, Cleveland.—p. 709.
Diurnal Changes in Acidity of Bryophyllum Calycinum. F. G. Gustafson, Ann Arbor, Mich.—p. 719.
Improved Type of Microscopic Electrocataphoresis Cell. J. H. Northrop and M. Kunitz, New York.—p. 729.
Critical Thermal Increments for Oxygen Consumption of Insect, Drosopnila Melanogaster. P. R. Orr, Philadelphia.—p. 731.
Simple Micro Vessel with Electrode for Determining Hydrogen Ion Concentration of Small Amounts of Fluid. J. H. Bodine and D. E. Fink, Philadelphia.—p. 735.
Studies on Luminous Bacteria. II. Influence of Temperature on Intensity of Light of Luminous Bacteria. T. F. Morrison, Princeton, N. J.—p. 741.

Journal of Laboratory and Clinical Medicine, St. Louis

10: 787-874 (July) 1925

*Attempt to Find Antipeptic Enzyme in Blood. V. D. Keiser, Rochester, Minn.—p. 787.
*Insulin Action. E. C. Mason and C. W. Matthew, Ann Arbor, Mich.—p. 793.
Financing Clinical Pathology in Modern Hospital. W. Burdick, Denver. —p. 804.
Modification of Kolmer Reaction. F. O. Huntsinger, Great Lakes, Ill. —p. 810.
Case of Congenital Cardiac Defect (Cor Triloculare) Associated with Transposition of Pulmonary Artery and Arch of Aorta. M. G. Wohl, Omaha.—p. 812.
*Production of Immunity with Soluble Antigen of Pneumococcus. N. S. Ferry and L. W. Fisher, Detroit.—p. 817.
*Complement Fixation in Tuberculosis with Particular Reference to Group of 102 Positive Reactions. L. R. Jones, Castle Point, N. Y.—p. 823.
Influence of Experimental Atherosclerosis on Systolic Blood Pressure in Rabbits. S. Shapiro and D. P. Seecof, New York.—p. 826.
*Vernes Test for Diagnosis of Syphilis. L. H. Cornwall, New York.—p. 831.
Simple Apparatus for Coronary Perfusion of Mammilian Heart. W. T. Dawson, Philadelphia.—p. 853.
Improved Apparatus for Determination of Cholesterol. S. L. Leiboff, New York.—p. 857.
Uran-Gallein, New Rapid Elastic Tissue Stain Producing Simultaneous Staining of Nuclei and Protoplasm. F. Proescher and A. P. Krueger, Agnews, Calif.—p. 862.
Preservation of Antisheep Amboceptor with Glycerin. V. Langworthy and M. Wemple, Albany, N. Y.—p. 864.
*New Bacteriologic Stain. L. E. Harrison, Prescott, Ariz.—p. 866.
Use of Swimming Cup for Washing Tissues. E. Morford, Houston, Texas.—p. 867.

Antipeptic Enzyme in Blood.—In view of the fact that peptic ulcer is considered a local autodigestion of the stomach, an investigation was made by Keiser of the protective antienzyme theory of gastric protection. This theory, if it explains lack of autodigestion of the stomach, should likewise be applicable to the etiology of peptic ulcer. The methods described in the literature as demonstrating an antipepsin were used and found to be inaccurate. These methods neither proved nor disproved the presence or absence of such a substance.

Insulin Action.—Observations made by Mason and Matthew tend to show that insulin apparently acts independently of the central nervous system, the sympathetic nervous system, and the parasympathetic nervous system.

Production of Immunity with Soluble Pneumococcus Antigen.—It is evident by the work done by Ferry and Fisher that an aqueous extract of Type 1 pneumococcus may be obtained from the washings of the organisms, fairly stable at a temperature of 60 C. for an hour with antigenic properties extremely high, without resorting to chemical extraction; and suggests the possibility of the use of such an extract to prevent pneumonia in human beings.

Complement Fixation in Tuberculosis. — Observations reported on by Jones tend to promote the belief that positive reactions obtained with the complement fixation test when correctly performed indicate with a high degree of accuracy the presence of tuberculosis "reaction-bodies" irrespective of whether the disease is then clinically active or quiescent.

Vernes Test for Syphilis.—Cornwall considers the Vernes reaction a valuable addition to the serologic procedures for the diagnosis of syphilis.

New Bacteria Stain. — The stain described by Harrison consists of 1 gm. basic fuchsin added to 100 c.c. distilled water. To 75 c.c. of the filtrate is added 10 c.c. of 37 per

cent. liquor formaldehydi, 10 c.c. of saturated aqueous solution of phenol and 5 c.c. of glycerol. Tubercle bacilli stain a brownish black against a light brownish yellow background. Vincent's organism stains similarly. Other organisms, especially gram-positive bacteria, the diphtheroid group and spore forms also stain well with this stain.

Kansas Medical Society Journal, Topeka

25: 207-244 (July) 1925

Present Status of Medical Education. H. J. Duvall, Hutchinson.—p. 207.
Correct Dose Measurements of Radiation to Malignancies. O. W. Swope, Wichita.—p. 209.
Kidney Function. H. E. McCarthy, Kansas City.—p. 212.
School Child and Heart Strain. M. True.—p. 215.
Impacted Fracture of Neck of Femur. H. Goodloe, Independence.—p. 220.

Kentucky Medical Journal, Bowling Green

23: 343-392 (July) 1925

Surgery in Birth Injuries to Nervous System. F. P. Strickler, Louisville.—p. 346.
Nonsurgical Consideration of Gastric and Duodenal Ulcer. E. F. Herzer, Louisville.—p. 348.
Analysis of One Hundred Obstetric Cases. S. D. Breckenridge, Lexington.—p. 350.
Endocrines. H. K. Osburn, Owensboro.—p. 352.
Animal Disease Control Work and Its Relation to Public Health. J. E. Gibson, Washington, D. C.—p. 359.
Health Work. J. B. Floyd, Richmond.—p. 363.
Rheumatic Fever in Children. J. L. Arkinson, Campbellsville.—p. 364.
Proctitis. W. L. Mosby, Bardwell.—p. 368.
Intestinal Obstruction from Tumor: Ectopic Gestation: Cases. J. G. Sherrill, Louisville.—p. 369.
Malignant Disease of Liver: Case. J. A. Flexner and M. Flexner, Louisville.—p. 372.
Malaria. R. C. Burrow, Cunningham.—p. 373.
Gastric Symptoms in Extragastric Diseases. C. G. Lucas, Louisville.—p. 374.
Abnormal Menopause. T. J. Marshall, Bardwell.—p. 376.
Acute Glaucoma. J. F. Dunn, Arlington.—p. 378.
*Infection of Lung with Vincent's Spirillum. M. Y. Marshall, Henderson.—p. 380.
Autosuggestion. W. H. Edwards, Danville.—p. 381.
Clinical Significance of Abdominal Pain. W. A. Bryan, Nashville, Tenn.—p. 381.
Surgical Treatment of Gastric and Duodenal Ulcers. I. Abell, Louisville.—p. 386.
Focal Infection. H. C. Clark, Falmouth.—p. 386.
Reduction and Destruction of Tonsils by Electrocoagulation. B. C. Rose, Bryantsville.—p. 389.

Infection of Lung with Vincent's Spirillum.—Marshall reports the case of a man who was very ill with what appeared to be an acute endocarditis with multiple arthritis. The patient was expectorating a considerable amount of prune juice colored, very foul smelling sputum. This was negative for *Bacillus tuberculosis*. On the basis of a roentgenray examination a probable diagnosis of pulmonary tuberculosis was made in spite of the negative sputum. Still searching for tubercle bacilli in the sputum about the third day after admission, Marshall noticed Vincent's spirillum and *Bacillus fusiformis* in enormous numbers, and in almost pure culture. He gave the patient intravenous injections of neoarsphenamin, three injections at two day intervals, of 0.15, 0.15 and 0.45 gm., respectively. Three more doses of 0.6 gm. each were given at weekly intervals. The man recovered. The primary site of infection was around the teeth with an abscess at the root of the right lung.

Military Surgeon, Washington, D. C.

57: 1-112 (July) 1925

Tuberculosis in Military Service. F. Rho.—p. 1.
*Panama Canal as Barrier Against World-Wide Spread of Disease. H. C. Fisher.—p. 18.
Vital Statistics Division Surgeon General's Office, War Department. A. G. Love.—p. 23.
Pelvic Actinomycosis in Soldier. W. M. Brickner.—p. 39.
Clinical Studies in Military Delinquency. E. King.—p. 51.
Flight Surgeon. W. S. Woolford.—p. 59.
*Dangers of and Treatment for Carbon Monoxid Poisoning. R. R. Sayers and W. P. Yant.—p. 64.
Food and Disease. A. Egdahl.—p. 75.

Panama Canal Prevents Spread of Disease.—Fischer points out that far from proving a source of danger by facilitating the spread of diseases, the Panama Canal is an active force for their detection, suppression and eradication. It is a great and effective sanitary outpost protecting all the world that our commerce touches.

Treatment of Carbon Monoxid Poisoning.—Sayers and Yant emphasize that inhalations for a period of from twenty to thirty minutes of oxygen, or a 5 per cent. mixture of carbon dioxid in oxygen, if available, will, when given immediately, greatly lessen the number and severity of symptoms of carbon monoxid poisoning, as well as decrease the possibility of serious sequelae. All industries in which this type of poisoning commonly exists should provide apparatus (inhalers) for the efficient administration of these treatments. This apparatus should be placed at points most convenient for treating carbon monoxid poisoning and employees should be trained in its use so that resuscitatoin may be effected immediately.

Minnesota Medicine, St. Paul

8: 419-488 (July) 1925

Periodic Medical Examinations. F. Billings, Chicago.—p. 419.
State Society. W. L. Burnap, Fergus Falls, Minn.—p. 422.
*New Antipneumococcus Serum. W. P. Larson and G. Fahr, Minneapolis.—p. 424.
*Treatment of Toxemia Associated with Gastric Stasis, Obstructive and Nonobstructive. C. S. McVicar, Rochester, Minn.—p. 427.
Surgery in Diabetic. A. A. Law, Minneapolis.—p. 434.
Treatment of Gangrene in Arteriosclerotic Diabetes. A. H. Beart, Minneapolis.—p. 436.
Compression Therapy in Pulmonary Tuberculosis. A. T. Laird and Neil Blake, Nopeming, Minn.—p. 440.
*Colds and Their Treatment with Chlorin. H. S. Diehl, Minneapolis.—p. 445.

Antipneumococcus Serum.—Larson and Nelson have shown that rabbits may be immunized against pneumococci treated with sodium ricinoleate and that the serum of such rabbits protects normal rabbits against intraperitoneal and intravenous pneumococcic infections. On the basis of this work, a series of investigations of pneumonia in monkeys treated with this serum were planned by Larson and Nelson. Eight patients with lobar pneumonia were treated with the serum with good results. Details are given.

Treatment of Toxemia with Gastric Stasis.—In the treatment of toxemia with gastric stasis McVicar has used intravenous injections of 10 gm. (1 per cent.) of soduim chlorid, and 100 gm. of glucose (10 per cent.) in 1,000 c.c. of freshly distilled sterile water. At least twenty minutes are allowed for each injection; 1, 2 or 3 liters of the solution are injected daily, the intravenous injections being supplemented by hypodermoclysis and proctoclysis. Clinical improvement is heralded by free diuresis and restoration of peristalsis.

Chlorin Treatment of Colds.—Of patients with rhinitis treated by Diehl with chlorin, 23.6 per cent. recovered within one day after treatment with chlorin as compared to 6.7 per cent. of the control series; and 19.5 per cent. of the entire group recovered within one day after treatment with chlorin as compared to 12.5 per cent. of the control series. The percentage of recoveries within three days after treatment was almost as large in the control series as in the chlorin series, 47.9 per cent. as compared to 51.4 per cent Any beneficial results from treatments with chlorin gas are experienced within the first day after the treatment.

Virginia Medical Monthly, Richmond

52: 207-274 (July) 1925

Medical Societies: County and District Society, Aid to Country Physician, State and National Association. D. M. Kipps, Front Royal.—p. 207.
Lateral Sinus Thrombosis. J. A. Babbitt, Philadelphia.—p. 209.
Heart Lesions. J. W. Preston, Roanoke.—p. 214.
Treatment of Anterior Poliomyelitis. J. A. Talbot, Washington, D. C.—p. 216.
Intracranial Hemorrhage in New-Born. R. H. DuBose, Roanoke.—p. 223.
Hemorrhage During Latter Months of Pregnancy and Labor. C. J. Andrews, Norfolk.—p. 226.
Treatment of Epididymitis by Diathermy. W. W. S. Butler, Jr., Roanoke.—p. 229.
Syphilis of Lungs; Two Cases. C. R. Grandy, Norfolk.—p. 230.
Diagnosis and Medical Treatment of Toxic Goiter. J. H. Smith, Richmond.—p. 233.
Induction of Labor at or Near Term. B. Lankford, Norfolk.—p. 235.
*Functional Capacity of Kidneys. W. T. Vaughan and W. R. Graham, Richmond.—p. 239.

Hodgkin's Disease; Atypical Case. O. O. Ashworth, Richmond.—p. 243.
Appendicitis from Viewpoint of General Practitioner. J. G. Davis, Christiansburg.—p. 246.
*Early Removal of Drainage in Acute, Perforative, Gangrenous Appendicitis with Peritonitis. S. S. Gale, Roanoke.—p. 247.
*Relation of Throat Infections to Acute Nephritis. E. L. Caudill, Narrows.—p. 248.
Traumatic Appendicitis. C. H. Lupton, Norfolk.—p. 250.
Devil's Masque; a Dream. R. K. Flannagan, Richmond.—p. 252.
*Congenital Syphilis of Larynx in Children; Case. E. G. Gill, Roanoke.—p. 255.
Vincent's Angina; Case. R. E. Mitchell, Richmond.—p. 256.

Functional Capacity of Kidneys.—It has been the experience of Vaughan and Graham that in early kidney damage, particularly that resulting from low grade focal infection, the picture presents either a negative urinalysis or an occasional cast and leukocyte, with or without albumin, and a tendency toward fixation of specific gravity at a high level without ability to concentrate the night urine following heavy fluid intake. As a proper means of evaluation of kidney function, they recommend the two-hourly concentration test and the water excretion test.

Early Removal of Drainage Following Appendectomy.—Gale analyzes 100 cases of appendectomy for perforation with peritonitis. The outstanding features of this treatment were the removal of the appendix, the removal of the pus by a suction apparatus, the insertion of a rubber dam drain, one or two as the case may require, usually a long one going down into the Douglas culdesac, and occasionally a shorter one down to the stump of the appendix, and the complete removal of these drains within seventy-two hours, at the outside. Gale stresses the importance of early removal of the drain in these cases.

Acute Nephritis Following Throat Infection.—Caudill's attention was directed to this condition by the occurrence in his county of residence of an unusually large number of cases of acute nephritis following throat infections. He reports two cases in detail.

Congenital Syphilis of Larynx.—Gill's patient was 12 years old. His father was living and well. His mother had died of syphilis of the larynx. The boy had had the usual local symptoms and presented a 4 plus Wassermann reaction. Under neo-arsphenamin treatment he got on well.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Australian Journal of Experimental Biology and Medical Science, Adelaide

2: 61-133 (June 16) 1925

*Hydrogen Peroxid and Bacterial Growth. F. M. Burnet.—p. 65.
*Effect of Dyes on Bacterial Growth. F. M. Burnet.—p. 77.
Influence of Cholesterol and Oxycholesterol on Multiplication of Infusoria (Enchelys). T. B. Robertson.—p. 83.
Experimental Studies in Growth. XVII. T. B. Robertson.—p. 91.
Organ Specificity. G. F. S. Davies, C. H. Kellaway and F. E. Williams.—p. 117.
Stimulating Effect of Phosphatic Fertilizers on Azofication in South Australian Soils. H. K. Lewcock.—p. 127.

Relation of Hydrogen Peroxid to Bacterial Growth.—The relation of hydrogen peroxid to bacterial growth was studied by Burnet. He found that exposure of nutrient agar plates to light results in the appearance of traces of hydrogen peroxid sufficient to inhibit the growth of isolated staphylococci and other organisms. This inhibition can be neutralized by diffusible products of growth of staphylococci. These diffusible substances, some of which are thermostable, act as reducing agents, destroying peroxid as it is formed. An inhibition of growth due to potassium cyanid can also be neutralized by these substances. Anaerobic growth of staphylococci is possible in concentrations of cyanid higher than those completely inhibiting aerobic development. It is concluded that the presence of catalase and of the diffusible sustances studied in the bacterial colony is an indication of a primitive means of keeping constant immediate environment, so as to allow the type of metabolism most suited to the organism to be maintained.

Effect of Dyes on Bacterial Growth.—It is shown by Burnet that the effects on growth of bacteria of such different nocuous agents as heat, acid fuchsin and potassium cyanid, as well as hydrogen peroxid, can be neutralized to a certain degree by what are almost certainly the same products of growth in each case. This suggests that in different ways these agents, and probably many others, all affect first one and the same function of the growing organism. This function can only be the power possessed by the organism of dealing affectively with hydrogen peroxid as it is formed. It is this function, then, that is the vulnerable point of the organism in relation to its environment.

British Journal of Anesthesia, Manchester

2: 97-156 (Jan.) 1925

Practice of Anesthesia in France. H. Bourbon.—p. 97.
Anesthesia and the Bad Risk Patient. G. W. Crile.—p. 105.
Influence of Anesthesia on Results of Major Abdominal Operations. H. Finsterer.—p. 112.
Case of Acidosis Following Chloroform Anesthesia. H. P. Fairlie.—p. 121.
Acetylene-Oxygen Anesthesia. A. Goldman and J. D. Goldman.—p. 122.
Percentage of Ether in Blood, Milk, Urine and Breath During Surgical Narcosis with Ether. K. Gramen.—p. 127.
Alleged Inconveniences of Local Anesthesia with Procain. R. Riccio and F. B. La Rossa.—p. 134.

3: 1-48 (July) 1925

Sacral Anesthesia. Minor Points of Major Clinical Importance. G. Labat.—p. 5.
Anesthesia in Diabetes. I. M. Rabinowitch.—p. 21.
Some Relations of Metabolism to Premedication and Anesthesia. E. I. McKesson and F. W. Clement.—p. 32.

British Journal of Tuberculosis, London

19: 113-162 (July) 1925

Artificial Sun Treatment. A. Eidinow.—p. 113.
Surgical Treatment of Pulmonary Tuberculosis. B. Hudson and G. Turini.—p. 127.
Heliotherapy and Actinotherapy at Heritage Craft Schools, Chailey. G. M. Levick.—p. 144.
Hygienic and Economic Factors in Incidence of Tuberculosis Among School Children. A. Priestman.—p. 148.

Irish Journal of Medical Science, Dublin

5: 145-192 (April) 1925

Vital Statistics of Irish Free State. W. Thompson.—p. 145.
Cylindroma of Cheek. T. T. O'Farrell.—p. 163.
Case of Auricular Fibrillation with Slow Ventricular Rate. L. Abrahamson.—p. 165.
Deep Roentgen-Ray Therapy in Coombe Hospital. L. Cassidy and R. Stumpf.—p. 170.

5: 193-240 (May) 1925

Radium Therapy. W. C. Stevenson.—p. 194.
Radium Therapy. M. R. J. Hayes.—p. 214.
Laryngeal Obstruction (Effusion) in New-Born Child. J. S. Quinn.—p. 226.

5: 241-288 (June) 1925

Treatment of Bladder Tumors. A. Fullerton.—p. 243.
*Jejunostomy in Acute General Peritonitis. S. Pringle.—p. 260.

Jejunostomy in Acute General Peritonitis.—The class of case in which Pringle urges jejunostomy is the diffuse general suppurative peritonitis of the lower abdomen associated with appendicitis, tubal disease and other septic conditions in the pelvis—the cases in which the intestines in the pelvis are acutely inflamed and the infection is already spreading upward into the abdomen proper, so that immediately on opening the abdomen pus is seen lying between the congested coils of small intestine without limiting adhesions and, if a hand is passed down into the pelvis, a regular well of pus is found in Douglas' pouch. The operation he performs is after the manner of a Witzel's gastrostomy.

Journal of Tropical Medicine and Hygiene, London

28: 237-256 (July 1) 1925

Spirocheta Bronchialis Castellani and Bronchial Spirochetosis. F. DeMello.—p. 237.
*Vaginal Monilias and Vaginal Moniliases. A. Castellani.—p. 242.
Cestode Genus Hydatigera Lamarck, 1816, Species Reditenia Sambon, 1924. C. W. Stiles and M. Orleman.—p. 249.
*Nongonorrheal Urethritis. A. Castellani.—p. 250.

Vaginal Monilias.—According to Castellani and Taylor *Monilias* and other fungi appear to be constantly absent in

the normal vagina. In certain cases of vaginitis, vulvovaginitis and of vuval, vaginal and aniperineal pruritus, *Monilias* are abundantly present and may, perhaps, play some rôle in the etiology of such cases, or at least produce the associated purulent or mucopurulent discharge. Two principal types of vaginitis are associated with the presence of *Monilias*, namely (*a*) the membranous type, presenting white patches of membrane on the vaginal mucosa, the so-called "vaginal thrush," and (*b*) the purulent type, with thick purulent vaginal discharge containing enormous numbers of *Monilias* and sometimes simulating gonorrheal infection. Attention is also directed to the presence of several genera of fungi other than the *Monilias* in the vaginal secretion of cases of chronic vaginitis. A case of vaginal aspergillomycosis and a case of vulvar hemisporosis are described.

Nongonorrheal Urethritis.—Practically all the protozoa and fungi found in nongonorrheal urethritis of the male have been found by Castellani also in cases of vaginitis and vulvovaginitis and he regards it as probable that in certain cases and under certain circumstances these affections may be transmitted by sexual intercourse.

Lancet, London

2: 53-108 (July 11) 1925

Disorders of Motility and of Muscle Tone. S. A. Kinnier Wilson.—p. 53.
Treatment of Phthisis with Sanocrysin. K. Faber.—p. 62.
Cholecystography in Diagnosis of Cholecystic Disease. R. D. Carman.—p. 67.
*Anuric Diabetic Coma. A. C. Begg.—p. 69.
Technic of Splenic Puncture in Diagnosis of Kala-Azar. P. Manson-Bahr.—p. 70.

Anuric Diabetic Coma.—The points common to diabetic coma with acidosis and diabetic coma with absent or slight acidosis Begg concludes are: (1) drowsiness going on to coma; (2) vomiting (usually) and constipation; (3) lowered tension of eyeballs; (4) raised blood sugar; (5) glycosuria; (6) tendency to heart failure. The differences between the two types are: Ordinary diabetic coma with acidosis has (1) blood sugar moderately high, blood urea about normal; (2) urine good quantity and early increase with treatment, much acetone and diacetic acid, no albumin (usually); (3) clinically, coma usually deep some time before death, air-hunger marked, odor of new-mown hay in breath; (4) prognosis—insulin treatment usually cures. Diabetic coma with absent or slight acidosis has (1) blood sugar very high, blood urea very high; (2) urine usually small in quantity going on to complete anuria, little or no acetone or diacetic acid, some albumin; (3) clinically, coma often not deep till just before death, air-hunger absent or slight, no odor of new-mown hay in breath; (4) prognosis—usually fatal from anuria. Whether this type of diabetic coma without acidosis is a distinct entity is doubtful, as some of the cases began with the typical signs of ordinary diabetic coma, and it was only when the acidosis had cleared up under treatment, without corresponding clinical improvement, that they showed themselves to be of the definite anuric type. As regards symptoms, physical signs, course and prognosis, it is a distinct clinical type and the immediate cause of death is suppression of urine.

Sei-i-Kwai Medical Journal, Tokyo

44: 1-18 (June) 1925

Physicochemical Properties of d'Herelles Lytic Agents. Y. Yasaki.—p. 1.
Glycogen in Central Nervous System of Chicken. C. Koyanagi.—p. 16.

South African Medical Record, Cape Town

23: 245-268 (June 27) 1925.

Infections of Hand. R. A. Ross.—p. 245.
Inflammation. G. K. Cross.—p. 257.

Tohoku Journal of Experimental Medicine, Sendai, Japan

6: 1-190 (June 28) 1925

*Epinephrin Hyperglycemia. I. Relation of Epinephrin to Glycogen Content of Muscle. T. Ohara.—p. 1.
*Id. II. Effect of Removal of Liver on Epinephrin Hyperglycemia and Glycogen Content of Muscle. T. Ohara.—p. 23.
Variations of Pneumococcus. T. Takami.—p. 41.
New Method of Production of Active Pneumococcus Serums. T. Takami.—p. 65.
Susceptibilty of Young Rabbits to Poisons. H. Takahashi.—p. 72.
Trichophytons in Japan. M. Takeya.—p. 74.
*Absorption of Nutritious Substances in Several Parts of Intestine. F. Nakawawa.—p. 130.
*Influence of Intravenous Injection of Epinephrin on Coagulation Time of Blood. S. Hirayama.—p. 160.
Sugar Content of Digestive Juices of Dog Poisoned with Phlorhizin. S. Hyrayama. —p. 168.
Effect of Pilocarpin and Atropin on Sugar Content of Bile in Guinea-Pig. S. Hirayama.—p. 186.

Epinephrin Hyperglycemia.—Even in the animals whose liver glycogen was made to disappear almost entirely through starvation, Ohara noted that hyperglycemia is very conspicuously developed by epinephrin. The repeated injections of epinephrin to fasting rabbits developed glycosuria and hyperglycemia to a high degree and the glycogen contents both in the liver and in the muscle are about the same as in normal animals. There is no difference of resistance to epinephrin between the glycogen in liver and the glycogen in muscle. In phosphorus poisoning, the glycogen content in muscle and in liver decreases greatly and epinephrin hyperglycemia is exceedingly inconspicuous.

Epinephrin Hyperglycemia.—The intravenous injection of epinephrin in the Eck-fistula dog produced the hyperglycemia and glycosuria the same as the subcutaneous epinephrin injection did. Epinephrin hyperglycemia is also developed in hepatectomized rabbits. The diminution in the content of muscle glycogen is far greater than that of the control rabbits in which the same procedure is applied, except the epinephrin; the progressive fall of blood sugar is produced and the diminution of the muscle glycogen is also far slighter. From these data it is inferred by Ohara that the epinephrin hyperglycemia in the rabbits whose liver is removed, may be due to the breakdown of the glycogen in muscles.

Absorption of Foods in Intestine.—Nakazawa found that the absorption of all substances, except salt, in the large intestine, is much less than in the small intestine; the rate of absorption in the colon ascendens corresponds to about half and in the rectum from one third (glucose) to one fourteenth (peptone) of that in the jejunum. The substances introduced into the rectum, as a nutrient enema, might be partly transported into the upper part of the large intestine by antiperistalisis, so that the absorption in the total large intestine should be taken into account in order to gauge the effect of rectal feeding. In rabbits, if, as the rate of absorption in the large intestine, the average of those in the rectum and colon ascendens is taken, it is 36 per cent. for sodium chlorid, 24.8 per cent. for glucose, 17.2 per cent. for glycocoll, 14.9 per cent. for fatty acids and 8.5 per cent. for peptone. The rate of absorption in the large intestine, in general, is nearly one half or one third of that in the jejunum, a fact indicating that the absorption in the large intestine cannot be overlooked in practice. Since there is no essential digestion in the large intestine, unless the active enteric juice which is rapidly transported here, as in the case of diarrhea, comes into action, it seems to be sensible to use such final products of digestion for the purpose of effective rectal alimentation. Water is absorbed better when administered in hypotonic solution than in isotonic or hypertonic solution. For certain clinical purposes (e. g. uremia), if the rapid and abundant administration of water is more necessary than for nutrition, it should be introduced in dilute solution per rectum. When water alone is applied as a drop enema, its effect is nearly the same as when it is given per os, since the rate of absorption in the large intestine is equal or slightly greater than that in the small intestine.

Influence of Epinephrin on Blood Coagulation Time.—Hirayama asserts that in the rabbit, epinephrin, given intravenously, in small doses (0.001 mg. per kilogram of body weight) as well as in large doses (from 0.05 to 0.1 mg. per kilogram) retards the coagulation time of the blood, while it hastens clotting in more than half the cases when medium doses (from 0.01 to 0.03 mg. per kilogram) are injected. The blood in the bilaterally splanchnectomized rabbit clots more promptly than that in the normal one.

Bulletin de l'Académie de Médecine, Paris

93: 715-754 (June 30) 1925

Alastrim: Attenuated Smallpox. A. Netter.—p. 723.
Poisoning from Drugs of Barbituric Group. C. Achard et al.—p. 732.
The Smallpox Epidemic in Switzerland. A. Alcay.—p. 739.
Cinematography of the Heart. Lutembacher.—p. 746.
Eosinophilia from Roentgen-Ray Treatment. J. Sabrazès.—p. 748.

94: 755-780 (July 7) 1925

*Alastrim. P. Teissier.—p. 756.
Transmission of Smallpox by Imported Rags, etc. L. Camus.—p. 767.
Vesicular Eruption After Meningitis. Nobécourt et al.—p. 771.
Spartein as Heart Tonic. Soula and Delas.—p. 775.
Pyrethrum Extract Destroys Lice. Juillet and Diacono.—p. 778.

Prophylaxis and Treatment of Alastrim.—Considering alastrim and smallpox as identical diseases, Teissier emphasizes that the same preventive measures should be employed. He believes that the serum from alastrim convalescents may prove effectual in the treatment of alastrim.

Schweizerische medizinische Wochenschrift, Basel

55: 573-592 (June 18) 1925

Seborrhea Capitis in Infants. Dind.—p. 573.
The Sexual Hormones in the Female. E. S. Faust.—p. 575.
Radioactivity of Mineral Muds. L. Blumer.—p. 579. Conc'n.
The Goiter Problem. A. Greil.—p. 582.

55: 593-616 (June 25) 1925

Multilocular Echinococcus of the Liver. A. Posselt.—p. 593.
*Influence of Chlorophyl on Organs. Gordonoff and N. Kitamura.—p. 605.
Orthopedics in Abdominal Surgery. M. Bourcart.—p. 607.
To Promote Breast Nursing. Imboden-Kaiser.—p. 609.

Influence of Chlorophyl on Asphyctic Organs.—In a series of previous papers, Bürgi and his co-workers have emphasized the general stimulating effect of chlorophyl on the animal organism. Gordonoff and Kitamura studied the effect of acetone-soluble chlorophyl on isolated organs (intestines of rabbits, intestines of guinea-pigs and frog-heart). In every instance they noticed a considerable stimulation of the muscular contractions. This effect was more pronounced in asphyctic organs than in those containing oxygen.

55: 617-636 (July 2) 1925

Insidious Symptoms of Inherited Alcoholism. M. Roch.—p. 617.
Uncomplicated Congenital Stenosis of the Pulmonary Valve; Three Cases. H. Müller, Jr.—p. 619.
*Primary and Secondary Sex Characteristics. E. Witschi.—p. 623.
Diathermy Treatment for Weak Hearts. G. Herzer.—p. 625.
The Tuberculous Expectoration. Müllhaupt.—p. 628.

Hormones and Sex Characteristics.—It is quite generally accepted that the development of the secondary sex characteristics is exclusively dependent on the endocrine secretion of sexual glands. Witschi enumerates several instances in which hermaphrodites showed a different development in two symmetrical sex organs (fallopian tubes, vesicles, mammae). These phenomena are not explainable by the above assumption, and Witschi believes that the action of hormones alone does not satisfactorily account for the facts.

Brazil-Medico, Rio de Janeiro

1: 249-258 (May 16) 1925

*Antivenin for Spider Bites. Vital Brazil and J. Véllard.—p. 249.
Diphtheric Conjunctivitis. E. Campos.—p. 252.

Antiserum Against Spider Bites.—Spider poisons may be grouped as neurotoxic and those that induce necrosis. The poison of *Lycosa raptoria* is of the latter type. Vital Brazil and Véllard have produced an antivenin for the bites of this spider which is the one that causes the majority of such mishaps in Brazil. They report one case in which injection of 10 c.c. had excellent results, in the robust man, aged 40.

1: 259-270 (May 23) 1925

*Ocular Complications of Sinusitis. J. Vieira.—p. 259.

Complications in the Eyes with Sinusitis.—Vieira states that he has encountered about ten cases with orbit-ocular complications with different forms of sinusitis in his 200 operative cases of sinusitis. He describes four cases in detail to emphasize that the diagnosis and treatment should be prompt in order to avoid persisting neuritis.

1: 271-286 (May 30) 1925

*Physiology and Pathology of the Thyroid. III. A. L. Pimenta Bueno.—p. 271.
Foreign Body in the Eye. E. Campos.—p. 279.

The Thyroid.—Pimenta Bueno argues that all the organs nourished by one arterial trunk form a solid system, as it were, functionally united besides the blood connection. This system is independent and opposed to all the other systems. This is evident in the thyroid, and the other organs fed by the trunk vessel in the neck, hyperplasia accompanying thyroid hyperactivity.

Prensa Médica Argentina, Buenos Aires

11: 1141-1184 (May 20) 1925

Research on the Sympathetic: Pigmentations. M. R. Castex and A. F. Camauer.—p. 1141.
*Auscultation of the Aorta in Children. E. Beretervide et al.—p. 1148.
Experimental Infection of the Toad with the Cruz Trypanosome. F. L. Niño.—p. 1154.
Ultrafiltrable Calcium in Cancer Serum. Roffo and Acuña.—p. 1163.

Auscultation of the Aorta in Children.—Beretervide and his co-workers present teleroentgenograms to sustain their assertions that the lesions of the aorta from congenital syphilis are as constant and as frequent in children as in acquired syphilis at any age. These lesions can be readily diagnosed, bearing in mind that the aorta in children is to the left of the middle line of the sternum, on a level with the third intercostal space, in the majority of cases, where it can be auscultated. Sometimes it is heard at the body of the sternum, or at the right margin in rare cases. The pulmonary artery opens directly into the aorta, the tube forming the descending aorta, at least during the first period after birth. These statements are based on more than 4,000 children.

Semana Médica, Buenos Aires

1: 1145-1200 (May 28) 1925

*Crico-Arytenoid Arthritis. J. A. Cruciani and A. Suárez.—p. 1145.
Treatment of Chronic Appendicitis with Ptosis. F. E. Ciarlo.—p. 1148.
Habitual Death of the Fetus. A. J. Guiroy.—p. 1158.
High Displacement of Left Kidney. Salleras and Blacksley.—p. 1161.
Care After Intervention on the Nose. C. F. Roldán Vergés.—p. 1162.
Eclampsia in First Half of Pregnancy. M. L. Pérez and A. M. Brea.—p. 1165.
The Hygiene of Sports. A. Vinaj.—p. 1167.
Ferrán's Theory of Tuberculosis. F. Isleño.—p. 1174.
Inhalation Treatment of Asthma in Bronchitis. R. de Mendévielle.—p. 1179.

Suppurating Arthritis of the Crico-Arytenoid Articulation.—Cruciani and Suárez describe the case of a girl of 13 who had been treated with serotherapy for epidemic cerebrospinal meningitis. Twelve days after defervescence tachycardia developed. This subsided in two days but the patient had difficulty in swallowing. This increased to dyspnea, suffocative breathing, and an abscess was found in the crico-arytenoid tissues. The suffocation became so severe that tracheotomy was necessary but the patient died in a few hours. Necropsy revealed the inflammatory nature of the lesion in the larynx but no meningococci could be cultivated from it. The case teaches, they say, that when the tachycardia appeared the meningococcus antiserum should have been resumed. This might have warded off the further complications.

Deutsche medizinische Wochenschrift, Berlin

51: 1055-1096 (June 26) 1925

Psychiatry and Endocrine Glands. Klieneberger.—p. 1055.
Radioactivity and Metabolism. J. Stoklasa.—p. 1057.
Hysteria as Cause of Death. M. Rosenfeld.—p. 1060.
*Methyl Alcohol Poisoning. H. Leo.—p. 1062.
Langer's Immunization Against Tuberculosis. E. Seligmann and F. v. Gutfeld.—p. 1064.
Surgical Treatment of Bronchial Asthma. A. Kuttner.—p. 1066.
Eugenics and Heredity in Circulatory Diseases. G. Galli.—p. 1067.
Flat Chest and Exercise. W. Siebert.—p. 1068. Conc'n.
Posture of Head and Arms. H. Hoff and P. Schilder.—p. 1069.
Hackenbruch's Extension in Fractures. Momburg.—p. 1070.
Specific Treatment of Phlyctenular Eye Disease. F. Jendralski.—p. 1071.
Elasticity of Arch Supporters. E. Fischer.—p. 1075.
History of German Medical Journals. W. v. Brunn.—p. 1077.
Present Doctrines of Homeopathy. E. Harnack.—p. 1082. Conc'n.

The Nature of Methyl Alcohol Poisoning.—Methyl alcohol as such is much less toxic for cells and isolated organs than

ethyl alcohol. Its well known high toxicity after ingestion must be due to chemical changes, which take place in the body. More than thirty years ago Pohl showed that methyl alcohol is changed into formic acid, and he suggested that the latter has the deleterious effect. Leo demonstrated experimentally that formic acid produces the same symptoms in animals as methyl alcohol. He states that its effect is not only the production of an acidosis, but that it has specific toxic actions. He found that large doses of sodium bicarbonate had a markedly beneficial effect in experimental poisoning in the dog.

51: 1097-1138 (July 3) 1925

Gastric Pain. H. Strauss.—p. 1097.
Acetonemic Vomiting in Children. Meyer and Bamberg.—p. 1100.
*Infections Without Clinical Symptoms. H. Reiter.—p. 1102.
*Surgery of the Hypertrophic Breast. J. Joseph.—p. 1103.
Surgical Treatment of Opacity of the Cornea. C. Bliedung.—p. 1105.
Medical Treatment of Gallbladder Disease. G. Leopold.—p. 1106.
Delivery in Breech Presentation. W. Hannes.—p. 1110.
Inulin in Experimental Cancer. R. Münzner and F. Rupp.—p. 1113.
Iron Therapy. Arneth.—p. 1115.
Roentgen-Ray Pictures of Pulmonary Apices. E. Meinicke.—p. 1115.
Iodized Oil in Diagnosis of Bronchiectasis. W. Landau.—p. 1115.
Edematous Vulva in Pregnancy. Weissenberg. Reply. Hoehne.—p. 1116.
Sellheim's Determination of Sex and Its Import for Roentgen-Ray Experiences. M. Fraenkel.—p. 1116.
Meningitis in Children. S. Wolff.—p. 1117.
Tracheotomy in Infants. E. Koehn.—p. 1119.
Obstetrical Diagnosis. F. Geppert.—p. 1120. Cont'd.

Infections Without Disease.—Reiter emphasizes the importance of infections, which do not lead to clinical disease, for the development of a state of relative immunity. He believes that many conditions which we call today congenital immunity are the results of unnoticed infections. On the basis of this hypothesis, many epidemiologic problems may be satisfactorily explained, and directions for artificial immunization may be deduced.

Surgical Treatment of the Pendulous Breast.—Joseph describes in detail two different procedures which he has found successful.

Deutsche Zeitschrift für Chirurgie, Leipzig

191: 1-144 (June) 1925

*Gastric and Duodenal Ulcer. E. Kutscha-Lissberg.—p. 1.
*Benign Tumors of the Stomach. H. Schnitzler.—p. 29.
*The Legg-Perthes and Similar Affections. H. Friedrich.—p. 40.
Deformity of the Foot from Overstrain. G. Brandt.—p. 65.
*Internal Secretion of Salivary Glands. Goljanitzki.—p. 79.
Case of Hemangioma of the Spleen. H. Näher.—p. 87.
*Splenectomy in Thrombopenia. H. Harttung.—p. 91.
*Acute Cholecystitis with Necrosis of the Pancreas. Weber.—p. 94.
Spontaneous Rupture in Hydronephrosis. O. Schreuder.—p. 109.
Papillomatous Tumor in the Ureter. R. Kleinschmidt.—p. 103.
Necessity for Individualization in Treatment of Habitual Dislocation of the Shoulder. F. Mandl.—p. 108.
Operative Treatment of Snapping Knee. F. Mandl.—p. 121.
Painful Os Tibiale Externum. S. Simon.—p. 127.
Congenital Salivary Fistula in Cleft Cheek. Pommrich.—p. 136.
Motor Innervation of the Diaphragm. W. Meisezahl.—p. 142.

Surgical Treatment of Gastric and Duodenal Ulcer.—Kutscha-Lissberg analyzes 316 operative cases, including twelve duodenal ulcers, and twelve with perforated duodenal and thirty-two with perforated gastric ulcers. Gastro-enterostomy was done in ninety-two cases; one patient died a week after the stool had been free from blood, and another from the vicious circle with torsion of the loop. In the seven cases with severe hemorrhage, one hemophiliac had been prepared with calcium lactate; the others with normal serum. Gastro-enterostomy alone gave better results than anticipated; no peptic ulcer was observed after it—possibly a casual coincidence. The fewest complicating pneumonias were observed after the Billroth I; probably because the respiration is less hampered by the after-pains, and the lungs suffer less from reflex disturbances in circulation.

Benign Tumors of the Stomach.—Schnitzler states that there are about 100 cases on record in which the operation showed a nonmalignant tumor instead of the expected ulcer or cancer. He adds another case to the list, the man, aged 55, previously free from all stomach disturbances, developed a palpable tumor in the epigastrium with roentgen shadows indicating an infiltrating tumor. The operation showed a small growth, spasm of the pylorus having evidently been responsible for the misleading roentgenograms, the tumor itself being no larger than a pea.

Legg-Perthes Disease.—Friedrich presents evidence that the roentgenograms are liable to be misleading in certain stages of this and similar affections of the bone. They deceptively simulate a destructive process in the bone.

The Internal Secretion of the Salivary Glands.—Goljanitzki believes that the salivary glands, in relation to the metabolism of sugar, act as antagonists to the chromaffin system and the cortex of the suprarenals. Consequently there may be indications for increasing the internal secretion of the salivary glands in case of insufficiency of the pancreas. Or by increasing the internal secretion of the salivary glands we may aim to paralyze excessive functioning of the suprarenals. He describes five clinical cases in which treatment was applied on this basis. In one he gave daily injections of an extract of beef parotid gland in a case of pyemic marasmus from an empyema; in the others he ligated Steno's duct at the edge of the masseter. His impressions were favorable in the empyema case and in a case of gangrene of the foot in a diabetic.

Splenectomy in the Acute Stage of Thrombopenic Purpura.—Harttung reports a case which brings to five the instances on record of splenectomy as a last resort in acute thrombopenia. Four of the patients died. On the other hand, eighteen were cured of the twenty chronic cases treated in this way.

Acute Cholecystitis with Fat Necrosis of the Pancreas.—Weber reports several cases, including one in which, with the pancreatitis in the course of old gallstone disease, the respiration center, the parotid gland and the kidneys were all involved. The involvement of the salivary gland with pancreatitis is a rare occurrence, although the pancreas is comparatively often involved with acute parotitis. His treatment was with infusion of isotonic solution of glucose, to combat the anuria, stimulants and atropin. The severe clinical picture harmlessly subsided.

Klinische Wochenschrift, Berlin

4: 1193-1240 (June 18) 1925

*Variability of Pathogenic Germs. H. Braun.—p. 1193.
*Infectious Diseases in Children. R. Degkwitz.—p. 1197.
Induced Changes of Muscle Tissues. Goldstein and Riese.—p. 1201. Cont'd.
*Scurvy-Preventing Substances in Milk. A. Frank.—p. 1204.
*Neutral Salt Reactions in Skin. S. Bommer.—p. 1208.
Changes in Rabbit Brain After Intratesticular Inoculation of Brain Tissue from Cases of General Paralysis. H. Pette.—p. 1209.
Etiology of Tubal Pregnancy. F. Kok.—p. 1213.
Improvement of Abderhalden's Reaction. W. Wittkop.—p. 1214.
Motor Innervation of the Stomach. Y. Nakashima.—p. 1214.
Intra-Ocular Pressure and the pH of the Blood. A. Meesmann.—p. 1214.
Spontaneous Recovery from Paranephritis. H. Normann.—p. 1215.
Extirpation of the Spleen. F. Lotsch.—p. 1216.
Present Status of Digitalis Treatment. P. Neukirch.—p. 1222.
Examination in Physiology. F. Knoop.—p. 1238.

Variability of Pathogenic Germs.—Braun reviews the changes undergone by micro-organisms under the influence of various external factors. The anthrax bacillus forms capsules in the animal body, and acquires by this a new antigen. Trypanosomes and spirochetes may change not only morphologically but also biologically. About twenty-two variants of trypanosomes have been artificially obtained, and all are immunologically different. This immunologic variability of the micro-organisms speaks for the advantages of autogenous vaccines. Cultivation of germs in their antiserums or in antiseptics gave interesting results, which showed that the ectoplasma contains different antigens from the endoplasma. Only the latter is essential for life. Immune serums prepared with the intact germs or with one of these substances differ considerably. There is no parallelism between their agglutinating, bactericidal and opsonin values. He agrees with Felix in regard to the importance of these factors in preventive treatment and in serotherapy.

Acute Infectious Diseases in Children.—Degkwitz points out that the incidence of acute infectious diseases of children depends chiefly on virulence and susceptibility, because transmission occurs mostly before or after the actual sickness of the person to whose disease they are exposed. Measles could and should be eradicated, according to Pirquet, by three

weeks of world-wide general quarantine. There are only two ways of fighting the infectious diseases of children beyond these; namely, by preventive immunization and improvement of general conditions, since rachitic children get infected more readily and are more liable to die than those who are correctly nourished in a hygienic environment.

Content of Milk in Scurvy-Preventing Substances.—Frank could not prevent scurvy in guinea-pigs by feeding them with human or goat's milk. The commonly sold cow's milk was better—but not the special milk for children.

Neutral Salt Reactions in the Skin.—Bommer has continued his investigations on the reaction of the skin to intracutaneous injections of various salts. The kation determines the quality of the reaction, while the anion conditions its time and strength. Exudation follows injection of calcium salts. Potassium produces a prolonged burning pain.

Wiener Archiv für innere Medizin, Vienna

10: 165-466 (May 15) 1925

Tuberculous Sepsis. R. Bálint.—p. 165.
True Epinephrin Reaction. K. Csépai.—p. 179.
*Local and General Action of Epinephrin. S. Weisz and S. Márkus.—p. 187.
*Antagonism of Insulin and Epinephrin. Csépai and Weiss.—p. 195.
Epinephrin Reaction in Gastric Ulcer and Asthma. K. Csépai and S. Sümegi.—p. 201.
*Basal Metabolism in Exophthalmic Goiter. Csépai and Schill.—p. 205.
*The Epinephrin Reaction. K. Csépai et al.—p. 213.
Pulmonary Tuberculosis and Vegetative System. von Kern and Kunze.—p. 223.
*Phosphates and Epinephrin Reaction in Man. S. Weiss.—p. 231.
Diagnosis in Abdominal Diseases. E. Rosenthal.—p. 235.
*Blood Pressure in Test Diuresis. E. Schill and J. Patai.—p. 257.
Symptoms and Treatment of Polycythemia. L. Hollaender.—p. 283.
*Residual Nitrogen and Urea. E. Schill and J. Kunze.—p. 329.
Protein Injury in Diabetes. Z. Ernst and K. Tóth.—p. 339.
*Enhancement of Oxidation of Diacetic Acid. Ernst and Förster.—p. 351.
Cholesterol of Wassermann and Sachs-Georgi Antigens. Frank—p. 357.
Hypertension and Hyperglycemia. S. Hetényi.—p. 369.
Diagnostic Use of Antitryptic Reaction. Purjesz, Jr., and Weiss.—p. 377.
*Resorption from Subcutaneous Tissue. S. Weiss and E. Kolta.—p. 393.
*Action of the Pituitary. S. Weiss and A. Telbisz.—p. 401.
Pleuropneumonia Due to Streptothrix. E. Schill.—p. 409.
Phlorhizin Glycosuria in Nephritis. S. Hetényi.—p. 415.
Function of Reticulo-Endothelium and Formation of Hemolysins. S. Weiss and J. Kunze.—p. 451.
Blocking the Reticulo-Endothelia with Iron. Weiss and Sümegi.—p. 457.

Local and General Action of Epinephrin.—Weiss and Márkus found that epinephrin delays the resorption of substances injected simultaneously under the skin only in certain patients. It had no effect on the blood pressure in these cases. They conclude that the subcutaneous injection cannot take the place of the intravenous test.

Cardiovascular Antagonism of Insulin and Epinephrin.—Csépai and Weiss found that under certain conditions insulin inhibited the blood pressure reaction to epinephrin. This is due to the changes of the blood sugar level, not to the insulin itself.

Basal Metabolism and Epinephrin Reaction in Exophthalmic Goiter.—Csépai and Schill found a certain parallelism between the epinephrin reaction and the basal metabolism during the course of exophthalmic goiter.

Influence of Blood Reaction and Blood Sugar on the Epinephrin Reaction.—Csépai, Holló and Weiss found that alkaline shifting of the blood reaction and hyperglycemia increased the blood pressure response to epinephrin.

Phosphates and Epinephrin Reaction in Man.—Weiss injected intravenously 100 c.c. of a 10 per cent. solution of primary and secondary phosphate in diabetics. The injection caused a lowering of the epinephrin reaction—probably indirectly, by lowering the blood sugar.

Blood Pressure in Test Diuresis.—Schill and Patai observed a lowering of the blood pressure in patients subjected to the diuresis test with 1,500 c.c. of tea. The action lasted sometimes for several days. They recommend it in hypertension.

Residual Nitrogen After Intravenous Injection of Urea.—Schill and Kunze injected 10-15 c.c. of a 100 per cent. solution of urea intravenously in various patients. The residual nitrogen in the blood never rose to the expected height, nor was the urea eliminated in a short time. They conclude that it must have been retained in the tissues.

Enhancement of Oxidation of Diacetic Acid by Carbohydrates.—Förster and Ernst investigated the inhibiting action of various substances on the enhancing action of glucose on the oxidation of diacetic acid. Glycocoll, tyrosin, histidin, and asparaginic, glutaminic and uric acid inhibited oxidation—probably by forming a compound with the glucose. Alanin leucin, creatin, glucosamin, nucleic, acetic, oxalic acid, urea and glycerol had no effect on it.

Resorption from Subcutaneous Tissue.—Weiss and Kolta found that sodium iodid is resorbed with different speed from various parts of the body, when injected subcutaneously.

Action of Posterior Lobe of the Pituitary.—Weiss and Telbisz observed an accelerated resorption of subcutaneously injected sodium iodid after injection of an extract from the posterior lobe of the pituitary. The action was identical in healthy subjects and in diabetes insipidus.

Wiener klinische Wochenschrift, Vienna

38: 663-694 (June 11) 1925

*Kidney Function Test. F. Pregl.—p. 663.
*Pregl's Kidney Function Test. H. Haberer.—p. 665.
*Children of Mothers Irradiated with Roentgen Rays. Zappert.—p. 669.
*Meinicke's Cholesterol-Free Alcoholic Extracts. Epstein and Paul.—p. 673.
Cesarean Section in a Case of Hematoma of Vulva and Vagina. J. Sahler.—p. 675.
Conservative Surgery in "Leukosarcoma" of the Choroid. F. Schubert.—p. 677.
Treatment of Chronic Gastritis. P. Saxl.—p. 678.
Hunger and Underfeeding in Pathology and Therapy. H. Elias. Supplement.—pp. 1-14.

Kidney Function Test.—Pregl determines the specific gravity of the urine obtained by catheterization of the ureters. Using Haeser's coefficient he estimates the amount of solid substances excreted, and compares it with the weight of ash. The diseased kidney may excrete the same volume of water, but less solid material. A predominance of mineral substances (ash) over the organic also speaks for a lower function of the kidney. The method is useful in extreme oliguria.

Pregl's Kidney Function Test.—Haberer considers the Pregl test described above superior to the indigocarmin test.

Children of Mothers Irradiated with Roentgen Rays.—Zappert shows that only less than one half of the children were normal of the mothers who had been treated with roentgen rays. A large proportion of the children were microcephalic. Microphthalmia occurred several times. His statements are based on twenty-one cases from the literature and his own experience.

Meinicke's Cholesterol-Free Alcoholic Extracts.—Epstein and Paul found no cholesterol and no protein in the optimal extract for the Meinicke reaction. The antigen contained, however, a mixture of phosphatids, especially a diaminomonophosphatid, creatinin and organic acids.

38: 695-720 (June 18) 1925

Medicolegal Psychiatry. H. Herschmann.—p. 695. Cont'd.
*Conservative Surgery of Myomas. B. Aschner.—p. 699.
Modified Meinicke Reaction in Cerebrospinal Fluid. R. Untersteiner.—p. 702.
Double Perforation of Aneurysm. F. Windholz.—p. 704.
*The Duodenal Muscle Syndrome. Bársony and Hortobágyi.—p. 706.
*Prevention of Flatfoot in Children. A. Saxl.—p. 707.
Drug Addiction. E. Herzig.—p. 708.
Insulin Treatment. H. Elias.—p. 710.
Pathogenesis and Systematization of Hemorrhagic Diseases. H. Lehndorff. Supplement.—pp. 1-14.

Conservative Surgery of Myomas.—Aschuer reiterates the importance of menstruation for the well-being of the woman. Consequently, he is opposed both to roentgen castration and to the extirpation of the uterus, even if the ovaries remain. He found that exact peritonealization after enucleation and resection of the myomas prevents postoperative ileus. Catgut is preferable to silk. A typical menorrhagia (metropathia hemorrhagica) should be treated only generally. The metabolism, digestion (atony of the stomach and constipation)

should be taken care of, and venesection should be used freely.

The Duodenal Muscle Syndrome.—Bársony and Hortobágyi found in their experiments on dogs that Bayliss and Starling's "law of the intestine" can be applied also to the duodenum. The stimulation of peristalsis of the stomach, and depression distad from the point of irritation, which are characteristic for duodenal ulcers, are caused by the nerves of the stomach and duodenum, and are independent of the external nerves.

Prevention of Flatfoot in Children.—Saxl gives suggestions for the type of shoes children should wear. Many shoes force the foot into pronation, which leads to the further development of the deformity.

38: 721-748 (June 25) 1925

Sugar Tolerance in Diabetes. F. Depisch.—p. 721.
Some Medicolegal Questions. Herschmann.—p. 723. Conc'n.
Different Types of Stasis. H. Elias and A. Feller.—p. 725.
*Fatal Hemorrhage Due to Periarteritis Nodosa. C. Sternberg—p. 729.
Chlamydozoa-Stronglyloplasma. B. Lipschütz.—p. 731.
The Constitution in Infants. R. Lederer.—p. 733.
Impediments of Speech. E. Fröschels.—p. 734.
Vegetative Nervous System and the Digestive Organs. L. Hess. Supplement, pp. 1-14.

38: 749-776 (July 2) 1925

Reflex Anuria. H. Rubritius.—p. 749.
Cesarean Section After Death. Peters.—p. 753.
Insulin and Adipositas. W. Falta.—p. 757.
Paravertebral Anesthesia in Angina Pectoris. F. Mandl.—p. 759.
Measuring Decolorations of the Skin. L. Freund and F. Novak.—p. 760.
Pituitary Tumors. Domanig.—p. 762.
Silica in Therapeutics. F. Luithlen.—p. 762.
Treatment of Diabetes in Children. R. Wagner. Supplement.—pp. 1-15.

Fatal Pulmonary Hemorrhage Due to Periarteritis Nodosa.—A man, 23 years of age, was admitted to the hospital on account of abdominal cramps and constipation. He suddenly expectorated bloody sputum, and died a few days later during a profuse pulmonary hemorrhage. Sternberg found that the left pleural cavity contained a large amount of blood and the left lower lobe was dark red, did not contain any air, and was studded with hemorrhagic infarcts. But the cause of the sudden fatal hemorrhage could not be detected. The histologic examination revealed that all the medium-sized and small branches of the pulmonary artery in the left lower lobe were diseased; the media was necrotic, the adventitia contained many leukocytic infiltrates, sometimes combined with endarteritis. These processes had resulted in the formation of many aneurysms and ruptures of arteries. The etiology of the disease is not known; all other organs appeared to be normal.

Zeitschrift für Krebsforschung, Berlin

22: 305-378 (June 16) 1925

A Teratoma in a Rooster. P. Cohrs.—p. 305.
The Frequency of Cancer. S. Peller.—p. 317.
Cholesterol in Experimental Mouse Cancers. W. Eber et al.—p. 359.
Vital Staining of Experimental Tumors. D. Engel.—p. 365.

Zentralblatt für Chirurgie, Leipzig

52: 1409-1456 (June 27) 1925

*Bleeding Time in Gastric Cancer. Harttung.—p. 1410.
When to Operate in Osteomyelitis. A. Hedri.—p. 1412.
*Operative Treatment of Epilepsy. P. Babitzky.—p. 1416.
Research on the "Wound Stream." P. Herzen and L. Nissnjewitsch.—p. 1420.
Autolysate Treatment After Operation for Cancer. Pohrt.—p. 1425.
Improved Infusion Syringe. Natannsen.—p. 1427.

Bleeding Time in Differential Diagnosis of Gastric Cancer and Ulcer.—Harttung's experience seems to demonstrate that the bleeding time is within normal range with cancer, while it is abnormally long—seven or eight minutes or more—in cases of gastric ulcer. This alone turned the scale in some dubious cases of cancer, confirmed by the operation on finding the bleeding time normal. He states further that reinjection of 10 c.c. of own blood in the gastric ulcer cases always shortened the abnormally long bleeding time in the ulcer cases, as the bleeding time was thus reduced to normal. This arrested the hemorrhagic tendency of the ulcers in two cases; by the third or fourth day no further blood could be found in the stools. He does not attempt to explain the phenomenon.

Operative Treatment of Epilepsy.—Babitzky insists on the possible advantages of supplementary cervical sympathectomy with a decompressive operation on the skull in cases of epilepsy not amenable to a causal therapy.

Zentralblatt für Gynäkologie, Leipzig

49: 1297-1344 (June 13) 1925

*Medicinal Painless Delivery. J. Eversmann.—p. 1297.
*Serologic Tests in Retroplacental Blood. R. Knebel.—p. 1302.
*Sedimentation Test and Congenital Syphilis. H. O. Neumann.—p. 1312.
Thirst Fever in the New-Born. E. Poeck.—p. 1325.
Air Embolism After Manual Separation of the Placenta; Fatal Case. H. Schlossman.—p. 1333.
Circular Avulsion of External Os from Metreurynter Pressure. O. Wiemann.—p. 1335.
Laceration of Vagina in Delivery. W. Barfurth.—p. 1336.
"Economy in Catgut." M. Blumberg.—p. 1337.

Painless Delivery.—Eversmann extols the advantages of S. Stein's method of small doses of pituitary extract when it is deemed advisable to accelerate delivery. This method is not "painless," but the shortening of the period of labor pains amounts practically to almost the same. He extols further the advantages of the Baer procedure.

Parallel Serologic Tests of the Retroplacental B'ood.—Knebel obtained a positive response in 1.87 per cent. of 2,527 married parturients tested at Essen for syphilis.

Sedimentation Test in Umbilical Vein Blood.—Neumann's 450 tests failed to show any characteristic modification of the settling of the erythrocytes in congenital syphilis.

49: 1409-1456 (June 27) 1925

*Presumptive Evidence in Paternity Test. L. Nürnberger.—p. 1409.
Predetermination of Sex. F. Kirstein.—p. 1431.
Relations Between General Paralysis and Generation Phenomena. G. Süsstrunk.—p. 1436.
"Injury of Spinal Cord from Intraspinal Anesthesia." Gross.—p. 1441.
Paratyphoid Infection of Hematocele from Tubal Pregnancy. G. H. Schneider.—p. 1443.

Presumptive Evidence in Paternity Research Cases.—Nürnberger discusses the probabilities afforded by the duration of the pregnancy (about 234 days), the inheritance of special types of finger prints (double loops), blood grouping, the swirl of the hair growth, etc.

Zentralblatt für innere Medizin, Leipzig

46: 453-476 (June 13) 1925

*Experiments on Decapsulation of Kidneys. Hülse and Litzner.—p. 454.

Experiments on Decapsulation of Kidneys.—Hülse and Litzner's experiments showed that decapsulation and squeezing of a kidney causes an increased blood flow through the organ, even if its blood vessels had been abnormally contracted. The secretion of urine is impaired quantitatively and qualitatively (sodium chlorid and urea). They explain the beneficial effect of the intervention by its reflex reduction of the contraction of the arteries of the kidneys.

46: 477-492 (June 20) 1925

Determination of the Blood Volume in Surgery. S. Perpina and R. D. Sarasola.—p. 477.

46: 593-624 (June 27) 1925

The Parotid Gland in the System of Endocrine Secretion. H. Goldbladt.—p. 594.

46: 625-640 (July 4) 1925

*Oxalic-Acid Poisoning. G. D. Koehler.—p. 625.

46: 641-672 (July 11) 1925

Direct Blood Transfusions; 150 Cases. A. Beck.—p. 642.

Oxalic Acid Poisoning.—The four cases which were observed by Koehler showed a very varied symptomatology. The symptoms may be as follows in different individuals: (1) isolated corrosions; (2) corrosions and anuria, low blood pressure, increase of nonprotein nitrogen and calcium in the blood; (3) hemorrhagic gastro-enteritis with low blood pressure without kidney symptoms, or (4) violent central disturbances (amaurosis, convulsions, loss of consciousness, acute amentia). His patients had taken the drug with suicidal intent, but all recovered except one.

Časopís lékařů českých, Prague

64: 841-876 (May 30) 1925

Diagnosis of Affections of Pancreas. V. Kreisinger.—p. 841.
*Determination of Respiratory Exchange. V. Ulrich.—p. 844.
*Influence of Insulin on Muscle Action. F. Karásek.—p. 848.
Puerperal Fever. J. Saidl.—p. 850. Cont'd.
Møllgaard's Treatment for Tuberculosis. A. Hoffmann.—p. 856. Cont'd.
*Botelho's Serum Reaction in Cancer. K. Klaus.—p. 859.
Phlegmonous Pericolpitis Dissecans. E. Zikmund.—p. 861.

Determination of Respiratory Exchange.—Ulrich confirms the usefulness of Pech's apparatus for determination of the maximum respiratory capacity. Healthy subjects may inhale or exhale 1,750 c.c. per second. Patients breathing less than a liter per second are dyspneic. Bad training may cause a lowered ability to breathe through the nose even in the absence of local changes.

Influence of Insulin on Muscle Action.—Karásek found that insulin increases the contractility of muscles in hyperglycemic frogs.

Botelho's Serum Reaction in Cancer.—Klaus had fair results with the Botelho reaction in 105 cases of cancer and in his controls.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

1: 2405-2488 (May 30) 1925

*Experimental Encephalitis. L. Bouman and S. T. Bok.—p. 2406.
*Calf Marrow in Infant Feeding. Wijmer-van Beusichem.—p. 2416.
Intestinal Lesions in Parturients. E. Hammer.—p. 2418.
Accident or Crime: Multiple Fractures of the Skull. J. P. P. Hulst.—p. 2421.
*Infarction of the Intestine. J. Exalto.—p. 2431.

Experimental Encephalitis.—Bouman and Bok injected rabbits with fluid from a labial herpes, and relate that some developed herpetic keratitis and some herpetic encephalitis, as also after introduction by scarification of the cornea.

Calf Bone Marrow in Infant Feeding.—A small cylinder of calf marrow was boiled in 0.75 liter of water until 0.5 liter was left, and 100-150 gm. of this bouillon was given the bottle baby daily. One or two teaspoons of the marrow passed through gauze was thus fed the infant daily in its milk. All thus treated seemed to thrive.

Infarction of the Intestine.—Exalto reports a case in which the young woman recovered after the laparotomy twelve hours after the first symptoms of the hemorrhagic infarction. More than 3 meters of the intestine had to be resected.

1: 2641-2736 (June 13) 1925

Immunization Against Tuberculosis. H. Aldershoff.—p. 2642.
*Urobilin as Index of Blood Destruction. A. Lichtenstein.—p. 2648.
Causes of Sterility. M. H. P. P. van Haeff.—p. 2654.
Painless Delivery Under Hypnosis. S. Koster.—p. 2657.
*The Natural Blood Preparation. G. C. van Walsem.—p. 2660.
*Intra-Ocular Pressure. S. E. de Jongh and L. K. Wolff.—p. 2665.
Influence of Allergy on Course of Tuberculosis. R. Korteweg.—p. 2672.

Urobilin in Connection with the Destruction of Blood.—Lichtenstein's communication on this subject was summarized in these columns, Aug. 1, 1925, p. 398.

He here describes some cases showing the differential importance of his index of blood destruction and the hemoglobin metabolism formula, especially in hemolytic jaundice and pernicious anemia. He assumes that in the latter disease the disease of the bone marrow is the primary disturbance, and the irritation from the pathologic marrow acts on the blood destroying apparatus, stimulating it to excessive function. By the index of blood destruction we can detect the disturbance in an early stage and, if the bone marrow is capable of regeneration, splenectomy may arrest the whole process; otherwise, not. He believes that the entire reticuloendothelial apparatus is involved.

The Natural Blood Preparation.—Van Walsem expatiates on the advantages of microscopic examination of the blood as it comes directly from the blood vessel. He urges thorough study of the technic on oneself. To prevent coagulation, he chills the slide with ethyl chlorid sprayed on a strip of filter paper pasted on the lower side.

Substance Which Reduces Intra-Ocular Pressure.—de Jongh and Wolff have coined the term "antitonon" for the substance which they isolated from the blood serum of rabbits, dogs and cats which had been having convulsions under the influence of insulin, strychnin, picrotoxin or cocain. They believe that it is identical with the substance in the serum in diabetic coma which likewise has an eye pressure-reducing property. They have been subjecting this antitonon to various tests as they describe: It is soluble in water and weak alcohol, but not in ether, strong alcohol or acetone. The Fehling reaction is negative, also the Pauli, and there is no precipitation with mercuric chlorid but much precipitation with picric acid and phosphotungstic acid.

Mededeelingen v. d. Burg. Geneesk. Dienst, Batavia

1-85, 1925. English Edition

*Crystals and Pigments in Living Tissues. A. J. F. Oudendal.—p. 1.
The Metagonimus Jokogawai in the Dutch East Indies. H. M. Presser.—p. 21.
Coagulation Processes During Purification of River Water. I. C. P. Mom.—p. 27.
The Sanitation of Baoe-Baoe (Celebes). T. L. van Hasselt.—p. 72.

Crystals and Pigments in Living Tissues.—Oudendal gives twenty-three colored plates of his findings of crystals in living tissue in or around an abscess of the liver, in the spleen, or in lesions elsewhere. One sarcoma of the thyroid was bristling with crystals, all birefringent, and they dissolved on heating. He ascribes them to repeated hemorrhages from which crystals of cholesterol were formed. In regard to the Charcot-Leyden-Neumann crystals in living tissue, he recalls that Neumann first observed these crystals in blood and in the spleen tissue.

Hospitalstidende, Copenhagen

68: 505-528 (June 4) 1925

Pneumococcus Infections of the Eyes. Lundsgaard.—p. 505. Cont'd.
*Tuning Fork Test in Sinusitis. C. Skovmand.—p. 519.
*Operative Treatment of Frontal Sinusitis. C. Skovmand.—p. 523.

Tuning-Fork Test for Sinusitis.—Skovmand stands the tuning fork just above the inner canthus, at the point usually tested for tenderness in the frontal sinus. The resonance differs according as the cavity contains fluid or is empty. A subject with normal frontal sinuses hears the sound of the tuning fork equally well and equally long on both sides, while it is reduced on the side with sinusitis. The findings are less reliable with the other sinuses. Attempts to obtain objective evidence with the stethoscope have not been satisfactory. Possibly some device to increase the resistance to the passage of the sound might render it more feasible.

Access to the Frontal Sinus.—Skovmand lauds the advantages of clearing out the ethmoid sinus through the nose, preliminary to opening into the frontal sinus through an incision in the eyebrow. A broad communication with the nose is then provided, working through an opening in the median wall of the orbit. This opening in the orbit must be kept as small as possible. He has applied this technic in five cases, with a prompt cure and no visible trace left.

Ugeskrift for Læger, Copenhagen

87: 577-592 (June 25) 1925

*Paratyphoid Poisoning from Meat. O. Moltke.—p. 577.
*Treatment of Neurosyphilis. A. Kissmeyer.—p. 582.
Is the Populace Over or Underfed? M. Hindhede.—p. 584.

Paratyphoid Meat Poisoning in Denmark.—This communication from the state serum institute relates that bacilli of the Breslau-Aertrycke paratyphoid type were found in the stools sent in from twelve patients between May and November, 1924, all with gastro-intestinal disturbances and fever. One died. The cause of the poisoning was not discovered in any instance, but it was known that the symptoms in nine of the cases had developed directly after eating meat that had smelt or tasted tainted. It is the first time that this variety of paratyphoid bacilli has been isolated in Denmark. Moltke adds that botulism meat poisoning is practically unknown.

Drug Versus Malaria Treatment of Neurosyphilis.—Kissmeyer protests against Lomholt and Nørvig's recent endorsement—on the basis of only three cases—of inoculation with malaria as a routine treatment for neurosyphilis. The drugs given in the three cases explain the benefit, and equally good or better results can be realized with the drugs alone, as he shows by a series of thirty-three cases of various affections of the central nervous system under lumbar puncture control for years.